

Developed with



SHELL HELIX ULTRA TECHNOLOGY

Shell
HELIX
Motor oils

DESIGNED TO MEET CHALLENGES



WHY SHELL HELIX IS THE LEADING BRAND

Shell is recognised as the world leader in lubricant technology. Our investment in lubricant research and development is unrivalled, and our experience extends over 75 years.

The pace of development is at its most intense in top-class motorsport. The Shell-Ferrari technical partnership provides us with the extreme environment of Formula One racing for developing and testing our lubricant technology. These developments cascade into our portfolio, so that we have oils to meet the demands of all motorists – whatever their driving environments.

Our laboratory and engine tests, and field trials have shown that Shell Helix oils clean and protect engines better than some leading competitors' oils. We have also performed customer perception trials to demonstrate that drivers notice the benefits of Shell Helix oils.

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A WINNING PARTNERSHIP

Shell's technical partnership with Ferrari is one of the most successful collaborations in the history of world-class motorsport, with over 150 Formula One race wins by the end of 2009. Strong track success leads to improved road performance, as we transfer the latest technology from Formula One to your customers through the Shell Helix lubricants range.

Formula One is the crucible of motorsport technology, and Shell involvement at the competitive end of the grid keeps us at the forefront of the race for innovation. Shell is developing the motor oils of the future in Formula One. For example, Shell Helix Ultra has advanced friction modifiers and other additives that were originally developed for Formula One engines. This means that your customers win with race-developed lubricants that improve road-car performance.

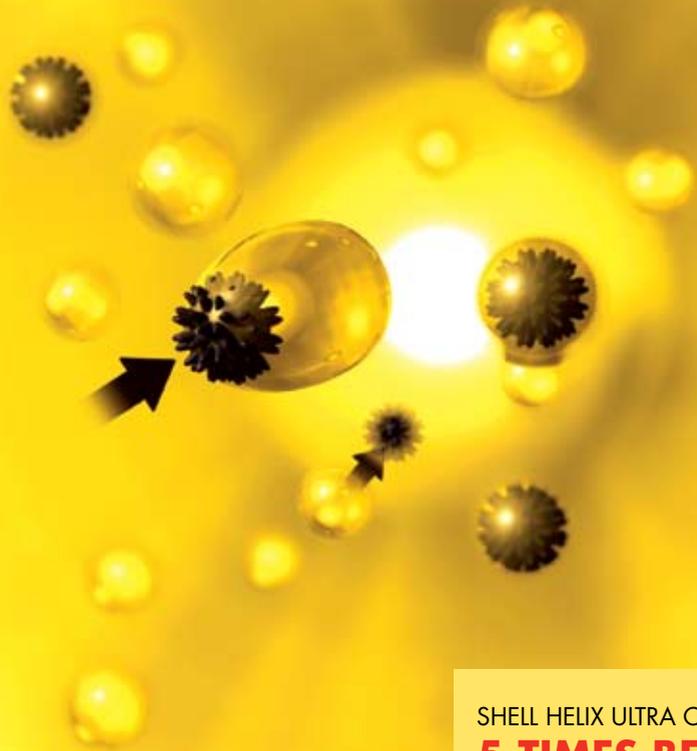
Whether for a Ferrari Formula One racing car or a family car, Shell Helix technology helps to keep the engine running as the designers intended – at maximum efficiency.



"FERRARI ONLY USES SHELL HELIX MOTOR OIL IN ITS ENGINES, AND THAT HELPS ME WIN RACES."

FORMULA ONE DRIVER FELIPE MASSA

SHELL HELIX ACTIVE CLEAN-UP



SHELL HELIX ULTRA CLEANS
5 TIMES BETTER
THAN A NORMAL MINERAL OIL

Normal mineral oils can allow dirt particles to stick together and form sludge on engine surfaces. This can prevent proper lubrication and could lead to premature engine failure.

Shell Helix oil's active cleansing agents prevent dirt particles sticking together to form sludge. For example, Shell Helix Ultra removes up to five times more sludge compared with a normal mineral oil (API SG/CD).



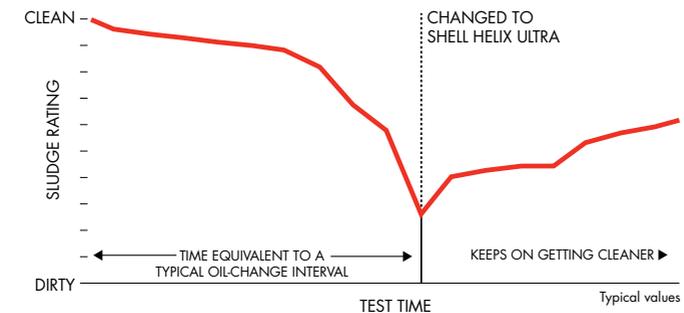
CLEANSING ACTION

A leading lubricant manufacturer recently said, "Once sludge builds up, it is difficult, if not impossible, to remove." Tests in an independent laboratory showed that Shell Helix Ultra oil can remove up to five times more sludge from a gasoline engine compared with a mineral oil.

The engine was run with mineral motor oil for a typical oil-change interval (260 hours), and sludge built up. The oil was then replaced with Shell Helix Ultra, and the engine was run again for a similar period (216 hours – standard Sequence VG test). An immediate clean-up effect was seen with Shell Helix Ultra, and the oil went on cleaning the engine for the entire test interval.

MAXIMUM ENGINE PERFORMANCE AND PROTECTION

It is critical that oil rapidly delivers protection to where it is needed, particularly when the engine is cold and is most vulnerable to wear. Shell Helix Ultra oil provides maximum performance and protection, and it flows faster at engine start-up (5°C) and operating temperatures (85°C) than other oils.* In fact, Shell Helix Ultra flows 4.5 times faster than a normal 20W-50 oil to provide maximum engine protection.



SHELL HELIX ULTRA FLOWS UP TO
4.5 TIMES FASTER
THAN A 20W-50 OIL AT START-UP
TEMPERATURE

SHELL HELIX ULTRA
20-50W OIL*

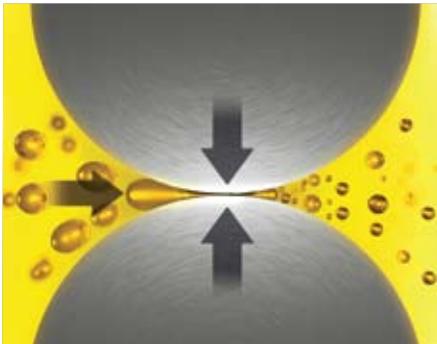


* 10W-40 oil in Europe and 20W-50 oil outside Europe

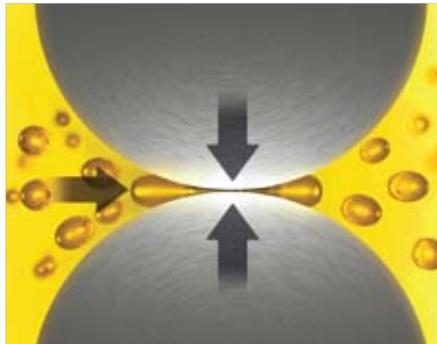
SHEAR STABILITY

Modern engines operate at high temperatures and have long service intervals. In the hot, stressful engine environment, the fast-moving parts can tear large molecules to pieces. This action, which is known as shearing, can cause the oil to get thinner and leave it less able to protect the engine components properly. If oils shear, they lose viscosity, and this can expose an engine to more friction and wear. Shell Helix oils are formulated to resist shearing so that they go on performing for the entire oil-change interval.

Our scientists perform shear stability tests in which oil samples are circulated through a Bosch diesel injector nozzle. This puts the oil under severe stress, which can cause the large molecules to tear apart. Oils with poor shear stability suffer from excessive viscosity loss during this test, and may not provide the engine protection they were designed to give. Shell Helix oils maintain their viscosities better than the leading competitors' oils, which means that they go on working as our scientists intended, throughout the oil-change interval.



SOME OILS: Large molecules can be torn apart by shearing forces. The oil's viscosity is reduced, and engine friction and wear can increase if the oil film gets too thin.



SHELL HELIX OILS: Large molecules resist being torn apart by shearing forces. Oil viscosity and engine protection are maintained.

SHELL HELIX ULTRA PROVIDES

3 TIMES BETTER SHEAR STABILITY
THAN A NORMAL MINERAL OIL

OXIDATION STABILITY

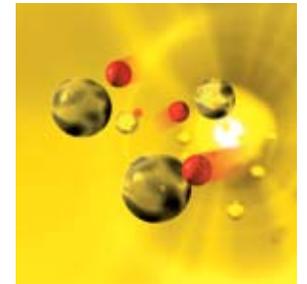


SHELL HELIX ULTRA: Antioxidants intercept and neutralise the free radicals that would otherwise oxidise the oil.

High engine temperatures and contaminants can cause oil to break down chemically. This action is known as oxidation and causes oil to turn black. The hotter the engine runs, the faster the degradation rate. Oxidation can cause

- sticky black particles to form and coat engine parts
- oil thickening, which reduces engine efficiency and impedes start-up oil flow
- black sludge to form, which can block oil ducts and cause oil starvation to vital engine parts
- acids to form, which can corrode engine metals and lead to engine failure.

Shell Helix oils are formulated to resist oxidation so that they go on performing for the entire oil-change interval. Our scientists perform oxidation control tests to measure the oxidation resistance of oil.



SOME OILS: Relatively low levels of antioxidants mean that free radicals can oxidise the oil molecules, which leads to sludge formation.

SHELL HELIX ULTRA PROVIDES

2 TIMES BETTER OXIDATION RESISTANCE
THAN A NORMAL MINERAL OIL



SHELL HELIX ULTRA

FULLY SYNTHETIC MOTOR OIL

SPECIAL FEATURES	BENEFITS
Shell's ultimate active cleansing technology	Up to five times more effective at removing sludge from dirty engines than a mineral oil
Long-term oxidation stability	Up to 37% more protection than other fully synthetic leading brands tested
Low viscosity, rapid oil flow and low friction	Greater fuel efficiency and easier cold starting
High shear stability	Maintains viscosity and stays in grade throughout the oil-change interval
Specially selected synthetic base oils	Reduce oil volatility and therefore oil consumption and the need for top-up
Minimises vibration and engine noise	Smoother, quieter drive

Exceeds specifications: API SM; ACEA A3, B3, B4; BMW LL-01; MB 229.5; VW 502 00/505 00; Porsche A40; RN0700, RN0710; Fiat 9.55535 Z2 (meets requirements); Ferrari; Maserati



SHELL HELIX ULTRA RACING

FULLY SYNTHETIC MOTOR OIL

SPECIAL FEATURES	BENEFITS
Specially designed for racing and modified vehicles	Greater bearing and wear protection under extreme performance and racing conditions
Shell's ultimate active cleansing technology	Up to five times more effective at removing sludge from dirty engines than a mineral oil
Long-term oxidation stability	Up to 37% more protection than other fully synthetic leading brands tested
High shear stability	Maintains viscosity and stays in grade throughout the oil-change interval
Specially selected synthetic base oils	Reduce oil volatility and therefore oil consumption and the need for top-up
Minimises vibration and engine noise	Smoother, quieter drive

Exceeds specifications: API SM/CF; ACEA A3/B3/B4; BMW M (meets requirements); MB 229.1; VW 502 00/505 00; Ferrari; Maserati



SHELL HELIX DIESEL ULTRA

FULLY SYNTHETIC MOTOR OIL

SPECIAL FEATURES	BENEFITS
Shell's ultimate active cleansing technology	Provides the best engine protection by continuously preventing soot deposits from building up on engine surfaces
Long-term oxidation stability	Up to 37% more protection than other fully synthetic leading brands tested
Low viscosity, rapid oil flow and low friction	Greater fuel efficiency and easier cold starting
High shear stability	Maintains viscosity and stays in grade throughout the oil-change interval
Specially selected synthetic base oils	Reduce oil volatility and therefore oil consumption and the need for top-up
Minimises vibration and engine noise	Smoother, quieter drive

Exceeds specifications: API CF; ACEA B3/B4; BMW LL-01; MB 229.5; VW 505 00; RN0700, RN0710; Fiat 9.55535 Z2 (meets requirements)



SHELL HELIX ULTRA C

FULLY SYNTHETIC MOTOR OIL

SPECIAL FEATURES	BENEFITS
Formulated with special low-friction base oils	Thickens less than conventional oils to make engine starting easier at low temperatures
Shell's ultimate active cleansing technology	Up to five times more effective at removing sludge from dirty engines than a mineral oil
Long-term oxidation stability	Up to 37% more protection than other fully synthetic leading brands tested
Low viscosity, rapid oil flow and low friction	Greater fuel efficiency
High shear stability	Maintains viscosity and stays in grade throughout the oil-change interval
Specially selected synthetic base oils	Reduce oil volatility and therefore oil consumption and the need for top-up
Minimises vibration and engine noise	Smoother, quieter drive

Exceeds specifications: API SM/CF; ACEA A3/B3/B4; BMW LL-01; MB 229.5; VW 502 00/505 00; Porsche A40; RN0700, RN0710



SHELL HELIX ULTRA EXTRA

FULLY SYNTHETIC MOTOR OIL

SPECIAL FEATURES	BENEFITS
Low-SAPS oil for emission system protection	Provides long life for exhaust aftertreatment devices
Shell's ultimate active cleansing technology	Up to four times more effective at removing sludge from dirty engines than a mineral oil
Long-term oxidation stability	High levels of antioxidant give excellent oxidation protection
Low viscosity, rapid oil flow and low friction	Greater fuel efficiency and easier cold starting
High shear stability	Maintains viscosity and stays in grade throughout the oil-change interval
Specially selected synthetic base oils	Reduce oil volatility and therefore oil consumption and the need for top-up

Exceeds specifications: ACEA C2/C3; BMW-LL04; MB 229.51; VW 504 00/507 00; PSA service fill



SHELL HELIX ULTRA E

FULLY SYNTHETIC MOTOR OIL

SPECIAL FEATURES	BENEFITS
Formulated with special base oils	Reduces friction to improve fuel consumption and lessen exhaust emissions
Shell's ultimate active cleansing technology	Up to five times more effective at removing sludge from dirty engines than a mineral oil
Long-term oxidation stability	Up to 37% more protection than other fully synthetic leading products tested
Low viscosity, rapid oil flow and low friction	Up to 2.2% greater fuel efficiency compared with a 1.5W-40 mineral oil and easier cold starting
High shear stability	Maintains viscosity and stays in grade throughout the oil-change interval
Specially selected synthetic base oils	Reduce oil volatility and therefore oil consumption and the need for top-up
Minimises vibration and engine noise	Smoother, quieter drive

Exceeds specifications: API SL/CF; ACEA A3/B3/B4; BMW LL-01; MB 229.5; VW 502 00/503 01/505 00



SHELL HELIX DIESEL ULTRA EXTRA

FULLY SYNTHETIC MOTOR OIL

SPECIAL FEATURES	BENEFITS
Extra protection for diesel particulate filters	Prevents unwanted ash build-up that would otherwise block the vital exhaust-gas flow
Shell's ultimate active cleansing technology	Provides the best engine protection by continuously preventing soot deposits from building up on engine surfaces
Long-term oxidation stability	High levels of antioxidant give excellent oxidation protection
Low viscosity, rapid oil flow and low friction	Greater fuel efficiency and easier cold starting
High shear stability	Maintains viscosity and stays in grade throughout the oil-change interval
Specially selected synthetic base oils	Reduce oil volatility and therefore oil consumption and the need for top-up

Exceeds specifications: ACEA C2/C3; BMW-LL04; MB 229.51; VW 507 00; PSA service fill

SHELL HELIX ULTRA E REDUCES THE FRICTION BETWEEN METAL SURFACES

In some parts of the engine, the pressure between the moving parts is so great that a film of anti-wear additives is required to provide protection. Anti-wear additives can increase friction, but Shell Helix Ultra E contains special friction-reducing molecules to counteract this. Shell Helix Ultra E works hardest in three critical areas of high friction in the engine:

- the piston rings and cylinder liner (friction as the piston rings move against the cylinder liner)
- the bearings (friction as the bearings rotate)
- the valve train (friction as the cams push the followers to open the valves).

