Enclosure 1 to SI 11 07 96 (138), edition 02/2019

The type of engine oil used is a decisive factor when it comes to ensuring proper functioning of and a long service life for an engine.

The engine oil is expected to overcome very wide-ranging tasks under all the operating conditions that may arise.

What is required is not just that the engine is always filled with an adequate oil quantity, but that the quality and viscosity of the oil matches the technical status of the engine and the operating conditions. The requirements made of engine oils depend on the engine design, the operating conditions, the oil service interval and the fuel grade.

A modern engine oil must fulfil a range of tasks that extend far beyond their actual function as a lubricant. The main requirements are:

- *High level of protection against wear and reduction of friction:*

  Friction losses lead to a reduction in the efficiency of engines. They must therefore be kept as low as possible by the engine oil.

  In general, the term wear is used to refer to a wear or surface damage to the frictional partners. High wear values lead either to reduced service life (e.g. bearing, piston ring or cam wear) or to acute malfunctions (seizing marks).

- *Favourable viscosity/temperature characteristics:*

  The viscosity is a measurement for the internal friction of a fluid. The viscosity of engine oil must not be too high when the engine is cold in order to make starting easier, to enable rapid oil supply to the lubricating points and to keep the fuel consumption low. At high temperatures and engine speeds, however, a minimum viscosity is required, in order to minimise contact between the frictional partners by means of an adequately thick lubricating film.

- *High residue-scavenging, cleaning and neutralising capability (good dispersant/detergent effect):*

  While an engine is running, combustion residues and oxidation products (some of which are acidic in nature), as well as abrasion and dirt particles from the intake air find their way into the oil circuit. The engine oil must neutralise the acidic components, prevent the residues from settling and agglomerating and keep sludge and coke deposits on all the engine components lubricated by the oil as low as possible.

- *High thermal stability:*

  There must be no impermissible decomposition and change in viscosity even when the oil is subjected to extreme thermal loading.

- *High oxidation and ageing stability:*

  Oxidation is the absorption of oxygen by the hydrocarbons contained in the oil. Oxidation products change the viscosity, promote corrosion on certain metals and encourage sludge formation. The term oil ageing is used for oxidation as well as any other chemical and physical change of the oil during engine operation.

- *Slight tendency to vaporise:*

  Ay engine oil consists of components with a different volatility. The "apparent" oil consumption due to evaporation of highly volatile compounds must be as low as possible.

- *Favourable foaming characteristics:*

  When the engine is running, the oil is swirled around to a great extent with air. Severe churning leads to lower lubricity and a reduced oil flow rate. The oil should therefore absorb as little air as possible while tend not to form stable foams. After absorbing air, the oil must give it off again immediately.

- *Good corrosion protection:*

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The engine oil must prevent corrosion of engine components not only during engine operation, but also when the vehicle is immobile over a longer period.

- *Unproblematic mixability / compatibility:*

  All engine oils must always be mixable at any ratio, i.e. including **synthetic, mineral oil containing** oils, without causing reactions due to incompatibility. Another prerequisite is the compatibility with all materials covered by the oil, in particular sealing materials, hoses and paints.

- *High thermal conductivity / good cooling capability:*

  The oil also has an important role to play in engine cooling. It must transport heat not only away from the friction points, but also a major proportion of the heat generated during combustion, e.g. by means of oil spray on the pistons and cylinder barrels.

- *Restricted tendency to form combustion residues:*

  When the engine is running, a limited amount of oil inevitably finds its way into the combustion chambers and is combusted there. Residues that build up in the combustion chambers lead to an unwanted increase in compression ratio and encourage auto-ignition.

- *Long shelf life:*

  When stored properly in closed containers, engine oil must be able to be stored for a long time without suffering any reduction in quality.

Not even very good base oils are able to fulfil all these requirements on their own. Oils for today's engine generations therefore contain a high proportion of carefully matched additives. It is these that bestow the required characteristics on the oil.

Initial-running or breaking-in oils

Factory fill oil, i.e. oils that provide extra protection against corrosion and better breaking-in characteristics, are to be regarded as a special case with respect to operation and operating conditions, and are not intended for use in Service.

In engine works a few engines are subject to a hot test. To be able to detect possible oil leakages, fluorescent agent is mixed with the engine oil. This agent causes discolouration of the engine oil. Depending on the mixture ratio the engine oil can take a red colour or green/yellow colour and smell like automatic transmission fluid. The mixing of fluorescent agent has no impact on the consistency and characteristics of the engine oil. The fluorescent agent remains in the engine and is washed out during the first engine oil change.

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Depending on the engine and vehicle type, BMW specifies different oil grades. Specifications other than those stated here or terms such as ”Low-viscosity oil, fully synthetic" etc. do not provide any indication about the suitability for use in engines from the BMW Group.

Longlife-01 oils

BMW Longlife-01 engine oils are a minimum requirement for all BMW Group petrol engines without petrol particulate filter from model year 2002 and for BMW Group diesel engines without particulate filter from model year 2003. Aside from that, BMW Longlife-01 engine oils are also permitted for use in older BMW Group engines.

Longlife-01 FE oils

BMW Longlife-01 FE engine oils are released worldwide for all petrol engines without petrol particulate filter as from model year 2002. There is no release for diesel engines.

Longlife-04 oils

BMW Longlife-04 engine oils were developed to guarantee an optimum service life of the diesel particulate filters and petrol particulate filters.

BMW Longlife-04 engine oils are approved worldwide for all diesel engines with and without diesel particulate filter and petrol engines with petrol particulate filters. For petrol engines without petrol particulate filter, BMW Longlife-04 engine oils are only approved for the European region including Norway, Switzerland and Liechtenstein.

Longlife-12 FE oils

BMW Longlife-12 FE engine oils are released for certain BMW Group diesel engines from model year 2014 with the designation 14d, 16d, 18d, 20d and 30d (exception F3x 30d from model year 2019). BMW Longlife-12 FE engine oils are generally permitted for BMW petrol engines with petrol particulate filters. For BMW Group petrol engines without petrol particulate filter from model year 2002, BMW Longlife-12 FE engine oil is only approved for the European region including Norway, Switzerland and Liechtenstein.

Longlife-14 FE+ oil

BMW Longlife-14 FE+ engine oils are only approved for certain BMW Group petrol engines without petrol particulate filter as from model year 2014 in the region of Europe including Norway, Switzerland, Liechtenstein as well as the USA and Canada. There is no release for diesel engines.

Longlife-17 FE+ oil

BMW Longlife-17 FE + engine oils are only permitted for certain BMW Group petrol engines with and without petrol particulate filter from model year 2014. There is no release for diesel engines.

Viscosity classifications

The viscosity is a measurement for the consistency of an engine oil. It is highly dependent on the engine oil temperature, i.e. the higher the temperature, the lower the viscosity. The engine oil temperature in turn depends among other things on the ambient temperature at which the vehicle is operated.

The oil must not be too viscous at low ambient temperatures so that all lubrication points are supplied quickly when the engine is cold. At high engine oil or engine temperatures, the oil must have a certain minimum viscosity in order to generate an adequate lubricating film thickness.

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Modern multigrade oils combine good low temperature properties with adequate lubrication even at high engine oil temperatures. This means that oil changes due purely to different seasons can be avoided through selection of a suitable viscosity class.

When using engine oils as per Enclosure 3 the following rules apply to selecting the suitable viscosity class:

BMW Longlife oils as specified for all BMW models as from 1998 are tested by BMW to ensure that they can be used worldwide all-year round at any ambient temperatures. It is therefore not necessary to pay attention to the viscosity class of BMW longlife oils. Exception M47TÜ2; a lower temperature limit of -20°C applies to SAE 5W-X oils; cold starting may be adversely affected if the temperature falls below that limit. In countries where the ambient temperatures frequently drop below -20 °C, we thus recommend the use of 0W instead of 5W products.

The viscosity classes SAE 0W-20 and SAE 5W-20 are not suitable for diesel engines.

Viscosity classes with a high viscosity can increase fuel consumption.

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Certain properties of the oils can be checked with the help of laboratory tests. However, the performance spectrum of an engine oil cannot be adequately described with this. Numerous tests, e. g. in special test engines, are required in order to obtain adequately reliable information on the performance in the engine under operating conditions.

To assess the engine oil quality, different institutes have created specifications that contain numerous test procedures. For use in BMW Group engines, only the European ACEA* (CCMC)* specification or the API** classification applies. The different requirements of petrol engines for the engine oil are taken into account in the corresponding *test procedures*.

*) ACEA = Association des Constructeurs Européens d'Automobiles (Association of European Automobile Manufacturers) CCMC = Comité des Constructeurs d'Automobiles du Marché Commun (Association of Automobile Manufacturers of the European Market / was replaced by ACEA in 1991)

**) API = American Petroleum Institute

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Enclosure 10 to SI 11 07 96 (138), edition 02/2019

All BMW Group engines are designed such that, when using today's highly developed engine oils, no oil additives are required.

BMW rejects oil additives of any kind. There are also no plans to test them in the future.

Possible consequences and effects caused by the use of oil additives are not the responsibility of the BMW Group.

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Enclosure 3 to SI 11 07 96 (138), edition 02/2019

Colour-coded engine oils are recommended for the respective engine.

3.1 Technically suitable engine oils for petrol engines:

Note:

Viscosity classes with a high viscosity can increase fuel consumption.

Engine	BMW Longlife-01 Please refer to Enclosure 4.	BMW Longlife-01 FE Please refer to Enclosure 5.	BMW Longlife-04 Please refer to Enclosure 6.	BMW Longlife-12 FE Please refer to Enclosure 7.	BMW Longlife-14 FE+ Please refer to Enclosure 8.	BMW Longlife-17 FE+ Please refer to Enclosure 9.	SAE 10W-60 Please refer to Enclosure 10.
2 Cylinder :							
W20	X	X	X (1)				
3 Cylinder :							
B32	X	X					
B36	X	X	X (1)	X (1)	X (5)	X	
B38 without petrol particulate filter(4)	X	X	X (1)	X (1)	X (5)	X	
B38 with petrol particulate filter(4)			X	X		X	
4-cylinder:							
B42	X	X					
B46	X	X	X (1)	X (1)	X (5)	X	
B48, with the SA1AE Flexible Fuel	X	X					
B48 without petrol particulate filter(4)	X	X	X (1)	X (1)	X (5)	X	
B48 with petrol particulate filter(4)			X	X		X	
N12	X	X	X (1)	X (1)			

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N13	X	X	X (1)	X (1)			
N14	X	X	X (1)	X (1)			
N16	X	X	X (1)	X (1)			
N18	X	X	X (1)	X (1)			
N20	X	X	X (1)	X (1)	X (5)	X	
N20, with the SA1AE Flexible Fuel	X	X					
N26	X	X	X (1)	X (1)	X (5)	X	
N40	X	X	X (1)	X (1)			
N42	X	X	X (1)	X (1)			
N43	X	X	X (1)	X (1)			
N45	X	X	X (1)	X (1)			
N46	X	X	X (1)	X (1)			
M43TU	X		X (1)				
M43/CNG			X (1)				
W10	X		X (1)				
W11	X		X (1)				
6-cylinder:							
B58 without petrol particulate filter(4)	X	X	X (1)	X (1)	X (5)	X	
B58 with petrol particulate filter(4)			X	X		X	
N51	X	X	X (1)	X (1)			
N52	X	X	X (1)	X (1)			
N53	X	X	X (1)	X (1)			
N54	X	X	X (1)	X (1)			
N55	X	X	X (1)	X (1)			
N56	X	X	X (1)	X (1)			
M52	X		X (1)				
M54	X		X (1)				
M56	X		X (1)				
S54							X

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S55 without petrol particulate filter[4]	X	X	X [1]	X [1]			
S55 with petrol particulate filter[4]			X	X			
S58 without petrol particulate filter[4]	X	X	X [1]	X [1]			
S58 with petrol particulate filter[4]			X	X			
8-cylinder:							
N62	X	X	X [1]	X [1]			
N63 without petrol particulate filter[4]	X	X	X [1]	X [1]			
N63 with petrol particulate filter[4]			X	X			
M62LEV	X		X [1]				
S62							X
S63 without petrol particulate filter[4]	X	X	X [1]	X [1]			
S63 with petrol particulate filter[4]			X	X			
S65							X
10-cylinder:							
S85							X
12-cylinder:							
N73	X	X	X [1]	X [1]			
N74 without petrol particulate filter[4]	X	X	X [1]	X [1]			

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N74 with petrol particulate filter(4)			X	X			
M73	X		X (1)				
Other engines:							
Other AG engines(2)	X		X (1)				
Other M engines(3)	X		X (1)				X

1) For petrol engines, only BMW Longlife-04 and BMW Longlife-12 FE oils are permitted in Europe (EU plus Switzerland, Norway and Liechtenstein). They must not be used outside this area.

2) ”Others” includes all AG engines/models which are not listed in the above table, for example M10, M20, M30, M40, M42, M43, M44, M50, M52, M60, M62, M70, M73, etc.

3) ”Others” includes all Motorsport engines/models which are not listed in the above table, for example S14, S38, S50, S50U, S52, S70, etc.

4) Vehicles with a petrol engine and petrol particulate filter can be identified on the vacuum hose, which is installed on the petrol particulate filter, as well as on the optional equipment SA1DEA RDE exhaust emissions standard.

5) BMW Longlife-14 FE+ oils are only approved for petrol engines in Europe (EU plus Switzerland, Norway and Liechtenstein), USA and Canada. They must not be used outside this area.

3.2 Technically suitable engine oils for diesel engines:

Engine	BMW Longlife-01 Please refer to Enclosure 4.	BMW Longlife-04 Please refer to Enclosure 6.	BMW Longlife-12 FE Please refer to Enclosure 7.	SAE 10W-60 Please refer to Enclosure 10.
3 Cylinder :				
B37C15K0		X	X	
B37C15U0		X	X	
B37D15K0		X	X	
B37D15U0		X	X	
B37C15K1		X	X	
B37C15U1		X	X	
4-cylinder:				
B47C20U0		X	X	
B47C20O0		X	X	
B47C20T0		X		
B47D20K0		X	X	
B47D20U0		X	X	
B47D20O0		X	X	
B47D20T0		X		

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B47C20T1		X		
B47C20U1		X	X	
B47C20O1		X	X	
B47D20U1		X	X	
B47D20O1		X	X	
B47D20T1		X		
N47 uL; N47 oL		X		
N47 S (5)				X
N47 S (5) (from 9/08)		X		
N47C16K1		X	X (6)	
N47C16U1		X	X (6)	
N47C20K1		X	X (6)	
N47C20U1		X	X (6)	
N47D16U1		X	X (6)	
N47D16K1		X	X (6)	
N47D20K1		X	X (6)	
N47D20U1		X	X (6)	
N47D20O1		X	X (6)	
N47D20O1 US		X	X (6)	
N47D20T1		X		
M41	X	X		
M47, M47TU (5)	X	X		
M47TU (5) (from 03/03)	X	X		
M47TU2 (1), (5)	X (3)	X		
W16D16		X		
W17D14	X	X		
6-cylinder:				
B57D30O0		X	X	
B57D30T0		X		
B57D30S0		X		
N57		X		
N57N		X		
N57X		X		
N57D30O1		X		

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N57D30O1 US		X	X [6]	
N57D30T1		X		
N57D30S1		X		
M21	X	X		
M51	X	X		
M57	X	X		
M57TU [5] (from 09/02)	X	X		
M57TU [5] (E60, E61 from 03/04)	X [2]	X		
M57Top [5] (from 09/04)		X		
M57TU2 [5] (from 03/05)	X [4]	X		
M57TU2Top [5] (from 09/06)		X		
8-cylinder:				
M67 (E38)	X	X		
M67 (E65)	X	X		
M67TU (from 03/05)	X [4]	X		

1) In countries where the ambient temperature frequently falls below --20 °C, we recommend the use of 0W instead of 5W products.

2) To increase the service life of the diesel particle filter, Longlife-04 oils are recommended as soon as they available.

3) Can be used on vehicles without DPF.

4) Recommended for vehicles without DPF and for non-EU countries.

5) TU2 = T2 / TOP = S

6) Valid as from model year 2014

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4.0 BMW Longlife-01

BMW Longlife-01 engine oils are a minimum requirement for all BMW Group petrol engines without petrol particulate filter from model year 2002 and for BMW Group diesel engines without particulate filter from model year 2003. Aside from that, BMW Longlife-01 engine oils are also permitted for use in older BMW Group engines.

Refer to the document "Technically appropriate engine oils for BMW Group engines" for detailed release information.

Product availability may vary depending on specific market.

SAE 5W-30

Trade name	Container size	BMW Group part number USA, Canada, Mexico	BMW Group part number Japan, Indonesia, Thailand, South Korea	BMW Group part number China	BMW Group part number Rest of World
BMW Engine Oil LL-01 5W-30	1000 ml,TU	83 21 2 405 947**	83 21 2 405 947**	83 21 2 405 947**	83 21 2 405 947**
MINI Engine Oil LL-01 5W-30	1000 ml,TU	83 21 2 406 986**	83 21 2 406 986**	83 21 2 406 986**	83 21 2 406 986**
MINI Original Engine OilLL-01 5W-30	1 litre	83 21 2 466 455	83 21 2 465 860	83 21 2 465 867	83 21 2 465 844*
BMW TwinPower Turbo LL-01 5W-30	1 litre	83 21 2 466 454	83 21 2 465 859	83 21 2 465 866	83 21 2 465 843*
BMW TwinPower Turbo LL-01 5W-30	5 litre	---	---	83 21 2 465 868	---
BMW GroupLL-01 5W-30	1000 litres Ibc	---	---	---	83 21 2 465 846*
BMW GroupLL-01 5W-30	209 litres	83 21 2 466 456	83 21 2 465 861	83 21 2 465 869	83 21 2 465 845*
BMW GroupLL-01 5W-30	Fuel tank	---	83 21 2 465 862	---	83 21 2 465 847*

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* Please order from **www.markethub.shell.com** or contact your local Shell partner.

** TU = trade unit. TU numbers cannot be ordered! Only for invoicing purposes!

*** Only in South Korea

**** Only in Japan

Please order from www.markethub.shell.com or contact your local Shell partner.
TU = trade unit. TU numbers cannot be ordered! Only for invoicing purposes!
Only in South Korea.
Only in Japan

MINI Engine Oil LL-01 5W-30 SAE 5W-30

83 21 2 406 986**

Trade name	BMW part number	Container
MINI Original Engine Oil LL-01 5W-30		1 litre

BMW Engine Oil LL01 5W30 SAE 5W-30

83 21 2 405 947**

Trade name	BMW part number	Container
BMW TwinPower Turbo LL-01 5W-30		1 litre
BMW TwinPower Turbo LL-01 5W-30		5 litre

BMW Engine Oil LL01 5W30 SAE 5W-30

83 21 2 405 947**

Trade name	BMW part number	Container
BMW GROUP LL-01 5W-30		1000 litres Ibc
BMW GROUP LL-01 5W-30		209 litres
BMW GROUP LL-01 5W-30		Fuel tank

Named approved oils

Trade name	Viscosity	Producer
Addinol Eco light	SAE 5W-40	Addinol Lube Oil GmbH
Addinol Super Light 0540	SAE 5W-40	Addinol Lube Oil GmbH
ADDINOL Super power MV 0537	SAE 5W-30	Addinol Lube Oil GmbH
AKTUAL FULLY SYNTH	SAE 5W-40	Petronas Lubricants International
AREXONS 3x B4	SAE 5W-40	Petronas Lubricants International
AVENO FS Excellence	SAE 0W-40	Deutsche Ölwerke Lubmin GmbH
AVENO FS Select	SAE 5W-30	Deutsche Ölwerke Lubmin GmbH
Aral HighTronic M	SAE 5W-40	Aral
Aral HighTronic M	SAE 5W-40	Aral AG
Aral SuperSynth	SAE 0W-40	Aral
Aral SuperSynth	SAE 0W-40	Aral AG
Aral SuperTronic G	SAE 0W-40	Aral AG
BNO Diamond 5W-40 SN	SAE 5W-40	Lub-rref (Bangladesh) Ltd.
BOOSTER 600 PLUS	SAE 5W-40	Additive Products (M) SDN BHD
BP Super V Plus	SAE 5W-40	BP Oil International
BP Super V Plus	SAE 5W-40	BP Plc
BP Visco 5000	SAE 5W-40	BP Oil International
BP Visco 5000	SAE 5W-40	Castrol Limited
BP Visco 5000	SAE 5W-30	BP plc
BP Visco 5000	SAE 5W-30	BP Plc
BP Visco 5000	SAE 5W-40	BP Plc
Biloxxi	SAE 5W-30	MCC Trading Deutschland GmbH
CEPSA GENUINE 5W40 SYNTHETIC	SAE 5W-40	CEPSA Comercial Petroleo S.A.U
Castrol Edge 0W-30 A3/B4	SAE 0W-30	Castrol Limited
Castrol Edge Professional A3	SAE 0W-30	Castrol Limited
Castrol Edge Professional LL01	SAE 0W-30	Castrol Limited
Castrol Edge Professional LL01	SAE 5W-40	Castrol Limited
Castrol EDGE Supercar 0W-40	SAE 0W-40	Castrol Limited

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A3/B4		
Castrol Edge 0W-30 A3/B4	SAE 0W-30	Castrol Limited
Castrol Edge 0W-40 A3/B4	SAE 0W-40	Castrol Limited
Castrol Edge 5W-30 A3/B4	SAE 5W-30	Castrol Limited
Castrol Edge 5W-40 A3/B4	SAE 5W-40	Castrol Limited
Castrol Edge 5W-40 SN	SAE 5W-40	Castrol Limited
Castrol Edge Professional A3	SAE 0W-40	Castrol Limited
Castrol Edge Professional A3	SAE 5W-40	Castrol Limited
Castrol Edge Professional A3	SAE 0W-30	Castrol Limited
Castrol Edge Professional A3	SAE 5W-30	Castrol Limited
Castrol Edge Professional LL01	SAE 5W-30	Castrol Limited
Castrol Edge Professional LL01	SAE 0W-30	Castrol Limited
Castrol Edge Professional LL01	SAE 0W-40	Castrol Limited
Castrol Edge Professional LL01	SAE 5W-40	Castrol Limited
Castrol Edge Professional OE	SAE 5W-40	Castrol Limited
Castrol Edge SAE 5W-40 US version	SAE 5W-40	Castrol Limited
Castrol GTX 5W-40 A3/B4	SAE 5W-40	Castrol Limited
Castrol GTX High Mileage	SAE 5W-40	Castrol Limited
Castrol GTX Professional A3	SAE 5W-30	Castrol Limited
Castrol Magnatec 5W-30 A3/B4	SAE 5W-30	Castrol Limited
Castrol Magnatec 5W-40 A3/B4	SAE 5W-40	Castrol Limited
Castrol Magnatec Professional A3	SAE 5W-30	Castrol Limited
Castrol Magnatec Professional A3	SAE 5W-40	Castrol Limited
Castrol Magnatec stop-start 5W-30 A3/B4	SAE 5W-30	Castrol Limited
Charger Xtreem	SAE 5W-40	Bahrain Petroleum Company
Divinol Syntholight	SAE 0W-40	Zeller + Gmelin
Drive Power 37 +	SAE 5W-40	Additive Products (M) SDN BHD
ELF Evolution 900	SAE 5W-40	TOTAL Lubrifiants
ELF Evolution 900 FT	SAE 5W-40	TOTAL Lubrifiants
ELF Evolution 900 FT	SAE 0W-40	TOTAL Lubrifiants
ELF Evolution 900 Turbo	SAE 5W-40	TOTAL Lubrifiants
ENERGY RELEASE 5W-40 RS (ER 5W-40 RS)	SAE 5W-40	DKR PETROLEUM CO., LTD.
Eni i-Sint	SAE 5W-40	Eni S.p.A.
Eurol Synergy	SAE 0W-40	Eurol BV
FASTRON GOLD	SAE 5W-40	Pt. Pertamina LUBRICANTS
FK European version	SAE 5W-40	Ban Hon International Co., Ltd.
FK European version	SAE 0W-40	Ban Hon International Co., Ltd.
FUCHS TITAN Supersyn LONGLIFE	SAE 5W-40	FUCHS PETROLUB SE
FUCHS TITAN Supersyn LONGLIFE	SAE 0W-40	FUCHS PETROLUB SE
Feu Vert	SAE 5W-40	Motul
G-Energy F Synth	SAE 5W-30	Gazpromneft-lubricants Ltd
G-Energy Service Line MS	SAE 5W-30	Gazpromneft-lubricants Ltd
GALP FORMULA ENERGY 5W40	SAE 5W-40	PETROGAL S.A.
GD 7.1	SAE 5W-40	Additive Products (M) SDN BHD

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GT-1® Euro Motor Oil	SAE 5W-30	Kendall Motor Oil
GT-1® Euro Motor Oil	SAE 5W-40	Kendall Motor Oil
Gulf Formula GX	SAE 5W-40	Gulf Oil International
Gulf Formula GX	SAE 5W-30	Gulf Oil International
Gulf Formula GX	SAE 0W-40	Gulf Oil International
Gulf Formula S	SAE 5W-40	TOTAL Lubrifiants
HPR 5	SAE 5W-40	Penrite Oil Company Pty Ltd.
Havoline Fully Synthetic E	SAE 0W-40	Chevron Lubricants
Havoline Pro DS Fully Synthetic	SAE 0W-40	NV CHEVRON BELGIUM
Havoline Pro DSFull Synthetic Motor Oil	SAE 5W-40	NV CHEVRON BELGIUM
Havoline ProDS Fully Synthetic	SAE 5W-40	Chevron Global Lubricants
Havoline Synthetic	SAE 5W-40	Chevron Lubricants
Havoline Synthetic Engine Oil	SAE 5W-40	Chevron Global Lubricants
Havoline Ultra	SAE 5W-40	Chevron Lubricants
INA Ultra Sint	SAE 5W-30	INA Maziva Ltd.
LUBREX VELOCITY NANO PLUS	SAE 5W-40	LUBREX FZC
LUKOIL GENESIS ARMORTECH	SAE 5W-40	OOO LLK-International
LUKOIL GENESIS POLARTECH	SAE 0W-40	OOO LLK-International
LUKOIL GENESIS SPECIAL	SAE 0W-40	OOO LLK-International
LUKOIL GENESIS SPECIAL POLAR	SAE 0W-40	OOO LLK-International
Leichtlauf High Tech LL	SAE 5W-30	LIQUI MOLY GmbH
Liqui Moly Leichtlauf High Tech	SAE 5W-40	Liqui Moly GmbH
Liqui Moly Pro-Engine M900	SAE 5W-40	Liqui Moly GmbH
Liqui Moly Special Tec LL	SAE 5W-30	Liqui Moly
Lotos Syntetic Plus	SAE 5W-40	Lotos Oil
Mol Dynamic Synt	SAE 5W-30	MOL-LUB Lubricant Ltd.
MOTOREX XPERIENCE FS-X	SAE 0W-40	BUCHER AG LANGENTHAL
MOTUL 6100 SYN-NERGY	SAE 5W-30	MOTUL
MOTUL 8100 X-MAX	SAE 0W-40	Motul S.A.
Meisteröl LL	SAE 5W-30	Epro GmbH
Midland synqron	SAE 5W-40	Oel-Brack AG
Miocar MX Syntra	SAE 5W-40	Migros Genossenschafts Bund
Mobil 1 Formula	SAE 0W-40	ExxonMobil
Mobil Formula X2	SAE 5W-40	ExxonMobil
Mobil Super 3000 Formula B	SAE 5W-40	ExxonMobil
Mobil Super 3000 X1	SAE 5W-40	ExxonMobil
Mobil Super 3000 X1	SAE 5W-40	Exxon Mobil
Mobil Super 3000 X2	SAE 5W-40	ExxonMobil
Mobil Super Synthetic Euro	SAE 5W-40	ExxonMobil
Mobil Super Synthetic Formula B	SAE 5W-40	ExxonMobil
Motul 6100 ECO FLEX	SAE 5W-30	Motul S.A.
Motul 6100 Flexmax	SAE 5W-30	Motul S.A.
Motul 6100 Flexmax	SAE 5W-30	Motul SA
Motul 8100 X-CESS	SAE 5W-30	MOTUL
Motul 8100 X-CESS	SAE 5W-40	MOTUL
Motul 8100 X-cess	SAE 5W-40	Motul S.A.
Motul Expert M	SAE 5W-40	Motul S.A.
Motul Specific LL-01	SAE 5W-30	Motul SA

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Motul Synergie	SAE 5W-40	Motul S.A.
OLEOBLITZ PULSAR C.R.	SAE 5W-40	Petronas Lubricants International
Omera Lube 1	SAE 5W-40	MJL Bangladesh Ltd.
PENTOSPEED SUPER PERFORMANCE	SAE 5W-40	FUCHS SCHMIERSTOFFE GMBH
PETRONAS SYNTIUM 3000	SAE 5W-40	Petronas Lubricants International
Pennzoil Platinum Euro	SAE 5W-30	Shell International Petroleum Company
Pennzoil Platinum Euro	SAE 5W-40	Shell International Petroleum Company
Pennzoil Platinum Euro	SAE 5W-30	Shell International Petroleum Co.Ltd.
Pennzoil Platinum Euro	SAE 5W-40	Shell International Petroleum Co.Ltd.
Pennzoil Ultra Euro	SAE 5W-40	Shell International Petroleum Company
Pennzoil Ultra Euro 5W-40 Full Synthetic Motor Oil	SAE 5W-40	Shell International Petroleum Company
Petronas Syntium 7000	SAE 0W-40	Petronas
Professional Series Full Synthetic Motor Oil	SAE 5W-40	Red Line Synthetic Oil
QS Ultimate Durability European	SAE 5W-40	Shell International Petroleum Company
QS Ultimate Durability European	SAE 5W-30	Shell International Petroleum Company
Quaker State Ultimate Durability European	SAE 5W-40	Shell International Petroleum Co.Ltd.
Ravenol HCL	SAE 5W-30	Ravensberger Schmierstoffvertrieb GmbH
RAVENOL HST	SAE 5W-40	Ravensberger Schmierstoffvertrieb GmbH
RAVENOL RSP	SAE 5W-30	Ravensberger Schmierstoffvertrieb GmbH
RAVENOL Super Synthetik Öl SSL	SAE 0W-40	Ravensberger Schmierstoffvertrieb GmbH
RAVENOL VollSynth Turbo VST	SAE 5W-40	Ravensberger Schmierstoffvertrieb GmbH
REPSOL ELITE COMMON RAIL	SAE 5W-30	REPSOL LUBRICANTES Y ESPECIALIDADES S.A
REPSOL ELITE COMPETICION	SAE 5W-40	REPSOL LUBRICANTES y ESPECIALIDADES S.A
REPSOL ELITE COSMOS HIGH PERFORMANCE	SAE 0W-40	REPSOL LUBRICANTES Y ESPECIALIDADES S.A
REV-1 TITANIUM	SAE 0W-40	Spare-Parts Zone Pte Ltd
ROWE HIGHTEC SYNT RS HC-D	SAE 5W-40	ROWE MINERALÖLWERK GMBH
Repsol Elite Common Rail	SAE 5W-30	Repsol YPF
Repsol Elite Competicion	SAE 5W-40	Repsol YPF
SINOPEC JUSTAR J700F Premium	SAE 5W-30	SINOPEC LUBRICANT CO.,LTD.
SPC SYN ACE SUPREME API SN	SAE 5W-40	Singapore Petroleum Company Ltd.
SRS ViVA 1 ecosynth plus	SAE 0W-40	SRS Schmierstoff Vertrieb GmbH
SRS ViVA 1 Longlife	SAE 5W-30	SRS Schmierstoff Vertrieb GmbH
SRS ViVA 1 topsynth	SAE 5W-40	SRS Schmierstoff Vertrieb GmbH

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SRS ViVA 1 topsynth plus	SAE 5W-40	SRS Schmierstoff Vertrieb GmbH
SRS Viva 1 Longlife	SAE 5W-30	SRS Schmierstoff Vertrieb GmbH
STAR GOLD	SAE 5W-40	Orlen Oil Sp. z o.o.
STAR SYNT S	SAE 5W-40	Orlen OilSp z o.o.
Shell Helix HX6	SAE 5W-40	Shell International Petroleum Company
Shell Helix Ultra	SAE 5W-30	Shell International Petroleum Company
Shell Helix Ultra	SAE 5W-40	Shell International Petroleum Company
Shell Helix Ultra	SAE 5W-30	Shell International Petroleum Co.Ltd.
Shell Helix Ultra	SAE 5W-40	Shell International Petroleum Co.Ltd.
Shell Helix Ultra Professional ABB	SAE 5W-40	Shell International Petroleum Company
Shell Helix Ultra Professional ABB	SAE 5W-30	Shell International Petroleum Co.Ltd.
Shell Helix Ultra Professional ABB	SAE 5W-40	Shell International Petroleum Co.Ltd.
Shell Helix Ultra Professional AM	SAE 5W-40	Shell International Petroleum Company
Shell Helix Ultra X	SAE 5W-30	Shell International Petroleum Co.Ltd.
Shell Helix Ultra l	SAE 5W-30	Shell International Petroleum Company
Shell Helix Ultra l	SAE 5W-40	Shell International Petroleum Company
Shell Helix Ultra l	SAE 5W-30	Shell International Petroleum Co.Ltd.
Shell Helix Ultra l	SAE 5W-40	Shell International Petroleum Co.Ltd.
Shield® Euro-Tech Motor Oil	SAE 5W-40	Phillips 66 Company
Shield® Euro-Tech Motor Oil	SAE 5W-30	Phillips 66 Company
Swd Rheinol Primus CVS	SAE 5W-30	Swd Lubricants GmbH & Co.KG
Swd Rheinol Primus VS	SAE 0W-40	Swd Lubricants GmbH & Co.KG
SynPower engine oil	SAE 5W-30	Valvoline EMEA
SynPower engine oil	SAE 5W-40	Valvoline
Synthetic PC	SAE 5W-30	eni S.p.A.
TNK Magnum Ultratec	SAE 5W-40	TNK Lubricants, LLC
TOTAL Quartz 9000	SAE 5W-40	TOTAL Lubrifiants
Total Quartz 9000 Energy	SAE 0W-40	TOTAL Lubrifiants
Titan Supersyn Longlife	SAE 5W-40	Fuchs Petrolub AG
TongYi SN	SAE 5W-40	TongYi Petroleum Chemical Co., Ltd.
Total Activa 9000	SAE 5W-40	Total
Total Activa 9000 Essence	SAE 5W-40	Total
Total quartz 9000	SAE 5W-40	Total
Total Quartz 9000 Energy	SAE 5W-40	Total
Triathlon Formula LL	SAE 5W-30	Adolf Würth GmbH & Co. KG
Triathlon Premium	SAE 5W-40	Würth International Trading (Shanghai) Co,. Ltd.
VR 7.1	SAE 5W-40	Additive Products (M) SDN BHD
Valvoline Advanced	SAE 0W-40	Valvoline

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Valvoline SynPower	SAE 5W-30	Valvoline
Valvoline SynPower HST	SAE 5W-30	Valvoline
Valvoline SynPower HST	SAE 5W-40	Valvoline
Valvoline SynPower motor oil	SAE 0W-40	Valvoline EMEA
WOLF VITALTECH	SAE 5W-40	Wolf Oil Corporation NV.
Weco TXI Syntholube	SAE 5W-40	Weco
Westfalen Gigatron	SAE 0W-40	Westfalen AG
Westfalen Megatron	SAE 5W-40	Westfalen AG
Yacco VX 1000	SAE 5W-40	Yacco S.A.S.
Yacco VX 1000 LL	SAE 5W-40	Yacco S.A.S.
eni i-Sint	SAE 0W-40	eni Schmiertechnik GmbH
eni i-Sint PC 4AM	SAE 5W-40	eni Schmiertechnik GmbH
eni i-Sint PC 4AM	SAE 5W-30	eni Schmiertechnik GmbH
maxxpower 5W30 Synergie	SAE 5W-30	Swd Lubricants GmbH & Co.KG
Megol Motorenoel High Condition	SAE 5W-40	Meguin GmbH & Co. KG
Megol Motorenoel Quality	SAE 5W-30	Meguin GmbH & Co. KG

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5.0 BMW Longlife-01 FE

BMW Longlife-01 FE engine oils are released worldwide for all petrol engines without petrol particulate filter as from model year 2002. There is no release for diesel engines.

Refer to the document "Technically appropriate engine oils for BMW Group engines" for detailed release information.

Product availability may vary depending on specific market.

SAE 0W-30

Trade name	Container size	BMW Group part number USA, Canada, Mexico	BMW Group part number Japan, Indonesia, Thailand, South Korea	BMW Group part number China	BMW Group part number Rest of World
BMW Engine Oil LL-01FE 0W-30	1000 ml, TU	83 21 2 405 945**	83 21 2 405 945**	83 21 2 405 945**	
MINI Engine OilLL-01FE 0W-30	1000 ml, TU	83 21 2 406 984**	83 21 2 406 984**	83 21 2 406 984**	
BMW TwinPower Turbo LL-01 FE 0W-30	1 litre	83 21 2 365 950	83 21 2 410 200	83 21 2 365 511	83 21 2 365 934*
BMW TwinPower Turbo LL-01 FE 0W-30	5 litre	---	---	83 21 2 365 710	83 21 2 365 710*
MINI Original Engine OilLL-01 FE 0W-30	1 litre	83 21 2 365 953	83 21 2 410 201	83 21 2 365 512	83 21 2 365 937*
BMW GroupLL-01 FE 0W-30	209 litres	83 21 2 405 849	83 21 2 410 731	83 21 2 365 516	83 21 2 405 098*
BMW GroupLL-01 FE 0W-30	Fuel tank	83 21 2 449 994	---	---	---

* Please order from **www.markethub.shell.com** or contact your local Shell partner.

** TU = trade unit. TU numbers cannot be ordered! For invoicing purposes only.

*** Only in South Korea

**** Only in Japan

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TU = trade unit. TU numbers cannot be ordered! Only for invoicing purposes!
Only in South Korea.
Only in Japan

BMW Engine Oil LL01FE 0W30 SAE 0W-30

83 21 2 405 945**

Trade name	BMW part number	Container
BMW TwinPower Turbo LL-01 FE 0W-30		1 litre
BMW TwinPower Turbo LL-01 FE 0W-30		5 litre

MINI Engine Oil LL-01 FE 0W-30 SAE 0W-30

83 21 2 406 984**

Trade name	BMW part number	Container
MINI Original Engine Oil LL-01 FE 0W-30		1 litre

BMW Engine Oil LL01FE 0W30 SAE 0W-30

83 21 2 405 945**

Trade name	BMW part number	Container
BMW GROUP LL-01 FE 0W30		209 litres
BMW GROUP LL-01 FE 0W30		Fuel tank

Named approved oils

Trade name	Viscosity	Producer
Agip 7007	SAE 0W-30	ENI S.p.A. Refining & Marketing Division

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6.0 BMW Longlife-04

BMW Longlife-04 engine oils were developed to guarantee an optimum service life of the diesel particulate filters and petrol particulate filters.

BMW Longlife-04 engine oils are approved worldwide for all diesel engines with and without diesel particulate filter and petrol engines with petrol particulate filters. For petrol engines without petrol particulate filter, BMW Longlife-04 engine oils are only approved for the European region including Norway, Switzerland and Liechtenstein.

The document "Technically appropriate engine oils for BMW Group engines" must be referred to for detailed release information.

SAE 0W-30

Trade name	Container size	BMW Group part number USA, Canada, Mexico	BMW Group part number Japan, Indonesia, Thailand, South Korea	BMW Group part number China	BMW Group part number Rest of World
BMW Engine Oil LL-04 0W-30	1000 ml, TU	---	---	---	83 21 2 405 950**
MINI Engine Oil LL-04 0W-30	1000 ml, TU	---	---	---	83 21 2 406 989**
MINI Original Engine OilLL-04 0W-30	1 litre	---	---	---	83 21 2 465 855*
BMW GroupLL-04 0W-30	1000 litres Ibc	---	---	---	83 21 2 465 857*
BMW GroupLL-04 0W-30	209 litres	---	---	---	83 21 2 465 856*
BMW GroupLL-04 0W-30	Fuel tank	---	---	---	83 21 2 465 858*
BMW TwinPower Turbo LL-04 0W-30	1 litre	---	---	---	83 21 2 465 854*

SAE 5W-30

Trade name	Container size	BMW Group part number USA, Canada, Mexico	BMW Group part number Japan, Indonesia, Thailand, South Korea	BMW Group part number China	BMW Group part number Rest of World
BMW Engine Oil LL-04 5W-30	1000 ml, TU	83 21 2 405 948**	83 21 2 405 948**	83 21 2 405 948**	83 21 2 405 948**
MINI Engine Oil LL-04 5W-30	1000 ml, TU	83 21 2 406 987**	83 21 2 406 987**	83 21 2 406 987**	83 21 2 406 987**
BMW GroupLL-04 5W-30	1000 litres Ibc	---	---	---	83 21 2 465 852*
BMW GroupLL-04 5W-30	209 litres	83 21 2 466 459	83 21 2 465 865	---	83 21 2 465 851*
BMW GroupLL-04 5W-30	Fuel tank	---	---	---	83 21 2 465 853*
BMW TwinPower Turbo LL-04 5W-30	1 litre	83 21 2 465 457	83 21 2 465 863	83 21 2 465 870	83 21 2 465 849*

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MINI Original Engine OilLL-04 5W-30	1 litre	83 21 2 466 458	83 21 2 465 864	---	83 21 2 465 850*

* Please order from **www.markethub.shell.com** or contact your local Shell partner.

** TU = trade unit. TU numbers cannot be ordered! For invoicing purposes only**.**

*** Only in South Korea

**** Only in Japan

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TU = trade unit. TU numbers cannot be ordered! Only for invoicing purposes!
Only in South Korea.
Only in Japan

MINI Engine Oil LL-04 0W-30 SAE 0W-30

83 21 2 406 989**

Trade name	BMW part number	Container
MINI Original Engine Oil LL-04 0W-30		1 litre

BMW Engine Oil LL04 0W30 SAE 0W-30

83 21 2 405 950**

Trade name	BMW part number	Container
BMW GROUP LL-04 0W-30		1000 litres Ibc
BMW GROUP LL-04 0W-30		209 litres
BMW GROUP LL-04 0W-30		Fuel tank

BMW Engine Oil LL04 0W30 SAE 0W-30

83 21 2 405 950**

Trade name	BMW part number	Container
BMW TwinPower Turbo LL-04 0W-30		1 litre

BMW Engine Oil LL04 5W30 SAE 5W-30

83 21 2 405 948**

Trade name	BMW part number	Container
BMW GROUP LL-04 5W-30		1000 litres Ibc
BMW GROUP LL-04 5W-30		209 litres
BMW GROUP LL-04 5W-30		Fuel tank

BMW Engine Oil LL04 5W30 SAE 5W-30

83 21 2 405 948**

Trade name	BMW part number	Container
BMW TwinPower Turbo LL-04 5W-30		1 litre

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MINI Engine Oil LL04 5W30 SAE 5W-30

83 21 2 406 987**

Trade name	BMW part number	Container
MINI Original Engine Oil LL-04 5W-30		1 litre

Named approved oils

Trade name	Viscosity	Producer
4CT-S	SAE 5W-30	Wako Chemical Company
4CT-S	SAE 5W-40	Wako Chemical Company
77 MOTOR OIL LE	SAE 5W-30	77 Lubricants
A.Z.Meisterteile engine oil MT-8PD	SAE 5W-40	MOL-LUB Kft
ADDINOL Giga Light MV 0530 LL	SAE 5W-30	Addinol Lube Oil GmbH
ADDINOL Premium 0530 C3-DX	SAE 5W-30	ADDINOL Lube Oil GmbH
AVENO HC Synth. 5W-40 LS UN	SAE 5W-40	Deutsche Ölwerke Lubmin GmbH
AVENO WIV-Multi LL	SAE 5W-30	Deutsche Ölwerke Lubmin GmbH
AVIA DYNETIC-GM	SAE 5W-30	AVIA AG
AVIA DYNETIC-LL	SAE 5W-30	AVIA AG
AVIASYNTH DPF PLUS C3	SAE 5W-30	Astris SA, Via Industrie 27, CH-6745 Giornico
Adnoc Voyager Gold	SAE 5W-40	Adnoc Distribution
Adnoc Voyager Gold	SAE 5W-30	Adnoc Distribution
Alpine Longlife III	SAE 5W-30	Mitan Mineralöl GmbH
Alpine RSL 5W-30 LA	SAE 5W-30	Mitan Mineralöl GmbH
Alpine RSL 5W-40 C3	SAE 5W-40	Mitan Mineralöl GmbH
Alpine RSL 5W30 LA	SAE 5W-30	Mitan Mineralöl GmbH
Aral HighTronic	SAE 5W-40	Aral
Aral HighTronic	SAE 5W-40	Aral AG
Aral HighTronic G	SAE 5W-30	Aral AG
Aral SuperTronic	SAE 0W-40	Aral
Aral SuperTronic Diesel	SAE 0W-40	Aral
Aral SuperTronic Longlife III	SAE 5W-30	Aral
Astris DPF Plus C3	SAE 5W-30	Astris SA
Aviaticon Unique BM	SAE 5W-30	Finke Mineralölwerk GmbH
Aviaticon Unique LongLife WIV	SAE 5W-30	Finke Mineralölwerk GmbH
BG SAE 5W-30 Synthetic Engine Oil	SAE 5W-30	BG Products Inc.
BMW Genuine Flushing Oil	SAE 5W-30	Shell International Petroleum Co.Ltd.
BP Visco 5000 C	SAE 5W-40	BP Plc
BP Visco 5000 M	SAE 5W-30	BP
BP Visco 7000	SAE 0W-40	BP Oil International
BP Visco 7000	SAE 5W-30	BP Oil International
BP Visco 7000 C	SAE 5W-40	BP
Biloxxi 5W-30 III	SAE 5W-30	MCC Trading Deutschland GmbH
Biloxxi 5W-40 HC	SAE 5W-40	MCC Trading Deutschland GmbH
Booster Premium	SAE 5W-40	LubriDutch B.V.
CAR1 SAE 5W-30 LA	SAE 5W-30	Mitan Mineralöl GmbH

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CAR1 SAE 5W-30 Longlife III	SAE 5W-30	Mitan Mineralöl GmbH
CARAT Longlife III 5W-30 20th anniversary edition	SAE 5W-30	CARAT Systementw.- und Marketing GmbH & Co. KG
CARTEC SAE 5W-30 LA	SAE 5W-30	Mitan Mineralöl GmbH
CARTEC SAE 5W-30 Longlife III	SAE 5W-30	Mitan Mineralöl GmbH
COFRAN SINTOLUX FORCE 3	SAE 5W-30	Fuchs Lubrifiants France
CONCEP-TECH VX	SAE 5W-30	Swd Lubricants GmbH & Co. KG
COUGAR FULLY SYNTHETIC MOTOR OIL	SAE 5W-40	Power International Chemical & Corp
Caltex Havoline Ultra V	SAE 5W-30	Chevron Global Lubricants
Cartechnic Motorenöl 5W-30 MF	SAE 5W-30	Auto-Teile-Ring GmbH
Cartechnic Engine Oil 5W-30 Multi	SAE 5W-30	Auto-Teile-Ring GmbH
Cartechnic Motorenöl SEA 5W-30 MF	SAE 5W-30	Auto-Teile-Ring GmbH
Cartechnic Motroenöl SEA 5W-30 Multi	SAE 5W-30	Auto-Teile-Ring GmbH
Castrol EDGE 5W-30 M	SAE 5W-30	Castrol Limited
Castrol Edge Professional LL04	SAE 0W-30	Castrol Limited
Castrol Edge Professional LL04	SAE 5W-30	Castrol Limited
Castrol Edge	SAE 5W-30	Castrol Limited
Castrol Edge	SAE 0W-40	Castrol Limited
Castrol Edge	SAE 0W-30	Castrol Limited
Castrol Edge	SAE 5W-40	Castrol Limited
Castrol Edge 5W-30 C3	SAE 5W-30	Castrol Limited
Castrol Edge Professional C3	SAE 0W-30	Castrol Limited
Castrol Edge Professional OE	SAE 5W-30	Castrol Limited
Castrol Edge Professional OE-X	SAE 5W-30	Castrol Limited
Castrol Edge Turbo Diesel	SAE 0W-30	Castrol Limited
Castrol Edge Turbo Diesel	SAE 5W-40	Castrol Limited
Castrol GTX 5W-30 C3	SAE 5W-30	Castrol Limited
Castrol GTX 5W-30 M	SAE 5W-30	Castrol Limited
Castrol GTX 5W-30 MP	SAE 5W-30	Castrol Limited
Castrol GTX 5W-40 C3	SAE 5W-40	Castrol Limited
Castrol MAGNATEC 5W-30 SN/C3	SAE 5W-30	Castrol Limited
Castrol MAGNATEC 5W-40 C3	SAE 5W-40	Castrol Limited
Castrol MAGNATEC 5W-40 SN/C3	SAE 5W-40	Castrol Limited
Castrol MAGNATEC Professional C3	SAE 5W-30	Castrol Limited
Castrol Magnatec Professional MP	SAE 5W-30	Castrol Limited
Castrol MAGNATEC Stop-Start 5W-30 C3	SAE 5W-30	Castrol
Castrol MAGNATEC Stop-Start 5W-30 SN/C3	SAE 5W-30	Castrol Limited
Castrol Magnatec 5W-30 C3	SAE 5W-30	Castrol Limited
Castrol Magnatec 5W-40 C3	SAE 5W-40	Castrol Limited
Castrol Magnatec 5W-40 SN/C3	SAE 5W-40	Castrol Limited
Castrol Magnatec Diesel 5W-40 DPF	SAE 5W-40	Castrol Limited
Castrol Magnatec Professional	SAE 5W-40	Castrol Limited

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C3		
Castrol Magnatec Professional MP	SAE 5W-30	Castrol Limited
Castrol Magnatec Professional OE	SAE 5W-40	Castrol Limited
Castrol Magnatec stop-start 5W-30 C3	SAE 5W-30	Castrol Limited
Concep-Tech DX	SAE 5W-30	Con Lubricants Duisburg GmbH
Concep-Tech Synth.	SAE 5W-40	Con Lubricants Duisburg GmbH
DS 5W30 PERFORMANCE LONGLIFE III	SAE 5W-30	Mitan Mineralöl GmbH
Divinol Syntholight 505.01	SAE 5W-40	Zeller+Gmelin
Divinol Syntholight DPF	SAE 5W-30	Zeller+Gmelin
Divinol Syntholight HC-FE	SAE 5W-30	Zeller+Gmelin
ELF Evolution Full-Tech C3	SAE 5W-30	Total
ELF Evolution Full-Tech MSX	SAE 5W-30	Total
ENERGY RELEASE 5W-30 (ER 5W-30)	SAE 5W-30	DKR PETROLEUM CO., LTD.
ENERGY RELEASE 5W-30 C3 (ER 5W-30 C3)	SAE 5W-30	DKR PETROLEUM CO., LTD.
ENERGY RELEASE 5W-40 (ER 5W-40)	SAE 5W-40	DKR PETROLEUM CO., LTD.
EUROLUB CLEANTEC	SAE 5W-30	Eurolub GmbH
EUROLUB WIV ECO	SAE 5W-30	Eurolub GmbH
Edeka Gut & Günstig 5W-30 LA engine oil	SAE 5W-30	Mitan Mineralöl GmbH
Edeka Gut & Günstig 5W-30 Longlife III Engine Oil	SAE 5W-30	Mitan Mineralöl GmbH
Edeka Gut & Günstig 5W-40 engine oil	SAE 5W-40	Mitan Mineralöl GmbH
Elf Evolution Full-Tech LLX	SAE 5W-30	Total Lubrifiants
Elf Evolution Full-Tech TDI	SAE 5W-30	Total Lubrifiants
Enoc Protec Green	SAE 5W-40	Emirates National Oil Cy
Equus Blue Gold	SAE 5W-30	PHI OIL GmbH
Eurol Fluence DXS	SAE 5W-30	Eurol BV
Eurol Syntence	SAE 5W-30	Eurol B.V.
Eurol Turbo DI	SAE 5W-40	Eurol BV
Evolution OEM Series-04	SAE 5W-40	Top 1 Oil Products Company
FEU VERT MULTI NORMES	SAE 5W-30	Motul SA
FK European version	SAE 5W-30	Ban Hon International Co., Ltd.
FK EURO PLUS	SAE 5W-30	Ban Hon International Co., Ltd.
FUCHS PENTO SUPER PERFORMANCE III	SAE 5W-30	FUCHS PETROLUB SE
FUCHS TITAN GT1 FLEX 23	SAE 5W-30	FUCHS PETROLUB SE
FUCHS TITAN GT1 PRO C-3	SAE 5W-30	FUCHS PETROLUB SE
Feu Vert C3	SAE 5W-30	Feu Vert
Feu Vert Multi Normes	SAE 5W-40	Feu Vert
G TECH 5W-30 MULTI PERFORMANCE	SAE 5W-30	Swd Lubricants GmbH & Co. KG
G-Energy Service Line W	SAE 5W-30	Gazpromneft-lubricants Italia S.P.A
GECCO engine oil SY	SAE 5W-40	ZEUS Zentrale für Einkauf und Service GmbH & Co. KG

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GTE Special Edition 5W-30 Longlife III	SAE 5W-30	CARAT GmbH & Co.KG
Galp Active 3000 M-LS	SAE 5W-30	Petrogal SA
Gulf Formula CX	SAE 5W-30	Gulf Oil International
Gulf Formula GVX	SAE 5W-30	Gulf Oil International
Gulf Formula ULE	SAE 5W-30	Gulf Oil International
Gulf Formula ULE	SAE 5W-40	Gulf Oil International
Gulf Progress Efficiency	SAE 5W-40	Total
Gulf Progress Extended	SAE 5W-30	Total
Gulf Progress Intensia	SAE 5W-30	Total Lubrifiants
HEM Longlife III	SAE 5W-30	Deutsche Tamoil GmbH
HIGH STAR C3	SAE 5W-30	Addinol Lube Oil GmbH
HIGH STAR C3-DX	SAE 5W-30	ADDINOL Lube Oil GmbH
Havoline Fully Synthetic	SAE 5W-40	Chevron Lubricants
Havoline Pro DS Full Synthetic Euro Motor Oil	SAE 5W-40	NV CHEVRON BELGIUM
Havoline ProDS Fully Synthetic LE	SAE 5W-40	NV CHEVRON BELGIUM
Havoline ProDS Fully Synthetic LE	SAE 5W-40	Chevron Lubricants
Havoline ProDS M	SAE 5W-30	Chevron Products Company
Havoline ProDS V	SAE 5W-30	Chevron Products Company
Havoline Ultra S	SAE 5W-30	Chevron Global Lubricants
Havoline Ultra S	SAE 5W-40	Chevron Global Lubricants
Havoline Ultra S	SAE 5W-30	Chevron Products Company
Havoline Ultra S	SAE 5W-40	Chevron Products Company
Helar SP 5W-30 LL-03	SAE 5W-30	Kroon-Oil
I.G.A.T PLATIN DLS	SAE 5W-30	I.G.A.T AG
I.G.A.T PLATIN DPF	SAE 5W-30	I.G.A.T AG
IME 1701679-B	SAE 5W-30	Infineum
INA Star	SAE 5W-40	INA d.d., Rafinerija nafte Rijeka
INA Ultra Star FE	SAE 5W-30	INA Maziva Ltd.
Igol Profive Diamant	SAE 5W-40	Igol France, S.A.
Igol Profive Emeraude	SAE 5W-30	Igol France, S.A.
JMC Extra MU	SAE 5W-30	Johannes J. Matthies GmbH & Co. KG
JMC Extra OP	SAE 5W-30	Johannes J. Matthies GmbH & Co. KG
Jet Top Level	SAE 0W-40	ConocoPhillips GmbH
K-Classic engine oil 5W-30 LA	SAE 5W-30	kaufland Warenhandel GmbH & Co. KG
K.Classic Engine Oil 5W-30 Longlife III	SAE 5W-30	kaufland Warenhandel GmbH & Co. KG
KA NASA KEN RACING MASTER	SAE 5W-30	POWER INTERNATIONAL CHEMICAL & OIL CORPORATION
KIXX PAO LL04	SAE 5W-40	GS Caltex Corporation
KLOBOlub Longlife III	SAE 5W-30	KLOBOmotive GmbH
KLOBOlub Multi	SAE 5W-30	KLOBOmotive GmbH
Krypton XT LA	SAE 5W-30	PAKELO
LIQUI MOLY Profi Longlife III	SAE 5W-30	LIQUI MOLY GmbH
LUBRIZOL OS 222112	SAE 5W-30	Lubrizol
LUKOIL GENESIS	SAE 5W-30	OOO LLK-International

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ARMORTECH VN		
LUKOIL GENESIS SPECIAL C3	SAE 5W-40	OOO LLK-International
LUKOIL GENESIS SPECIAL VN	SAE 5W-30	OOO LLK-International
Liqui Moly Nachfüll-Öl	SAE 5W-40	Liqui Moly
Liqui Moly Pro Engine M 600	SAE 5W-30	Liqui Moly GmbH
Liqui Moly Pro-Engine M 400	SAE 5W-40	Liqui Moly
Liqui Moly Pro-Engine M 500	SAE 5W-30	Liqui Moly GmbH
Liqui Moly Top Tec 4100	SAE 5W-40	Liqui Moly
Liqui Moly Top Tec 4200	SAE 5W-30	Liqui Moly GmbH
Liqui Moly Top Tec 4600	SAE 5W-30	Liqui Moly GmbH
Liqui Moly Top Tec 4605	SAE 5W-30	Liqui Moly GmbH
Longtime High Tech	SAE 5W-30	LIQUI MOLY GmbH
Lotos Quazar	SAE 5W-40	Lotos Oil
Lotos Quazar C3	SAE 5W-30	Lotos Oil
Lotos Quazar LLIII	SAE 5W-30	Lotos Oil
Lubrizol OS 267675	SAE 0W-30	Lubrizol
MAPO Fulltec C3	SAE 5W-30	MAPO -Schmierstofftechnik Handel GmbH
MAPO SUPER PDI	SAE 5W-40	MAPO -Schmierstofftechnik Handel GmbH
MOL Dynamic Prima	SAE 5W-40	MOL-LUB Lubricant Ltd.
MOTOREX Xperience C3 FS-X	SAE 0W-30	BUCHER AG Langenthal
Motul Specific LL-04	SAE 0W-30	MOTUL SA
MPM Motor Oil 5W-30 Premium Synthetic C3 DPF	SAE 5W-30	MPM International Oil Company BV
MPM Motor Oil 5W-30 Premium Synthetic ESP	SAE 5W-30	mpm International Oil Company
Mabanol Xenon Alpha LA	SAE 5W-30	Schmierstoffraffinerie Salzbergen
Mabanol Xenon Ultra Synth Longlife	SAE 5W-30	Schmierstoffraffinerie Salzbergen
Meisteröl RPF	SAE 5W-40	Epro GmbH
Midland crypto-3	SAE 5W-30	Oel-Brack AG
Midland® Synova	SAE 5W-40	Oel-Brack AG
Midland® Synova	SAE 5W-30	Oel-Brack AG
Miocar MX Syntra	SAE 5W-30	Migros Genossenschafts Bund
Mobil 1 ESP	SAE 0W-40	ExxonMobil
Mobil 1 ESP Formula	SAE 5W-30	ExxonMobil
Mobil 1 ESP Formula B	SAE 0W-30	ExxonMobil
Mobil Super 3000 XE	SAE 5W-30	ExxonMobil
Mobil Super 3000 XE	SAE 5W-40	ExxonMobil
Mobil Super 3000 XE1	SAE 5W-40	ExxonMobil
Mobil Super 3000 XE1	SAE 5W-30	ExxonMobil
Mogul Extreme LFIII	SAE 5W-30	Orlen Oil Sp. z o o
Monza GP Longlife III	SAE 5W-30	Mitan Mineralöl GmbH
Monza Super Combi	SAE 5W-30	Mitan Mineralöl GmbH
Motor Oil LE	SAE 5W-30	Transnational Blenders B.V.
Motor Oil LE	SAE 5W-40	Transnational Blenders B.V.
Motor Oil Longlife-III Synth	SAE 5W-30	Transnational Blenders B.V.
Motorex Select LA-X	SAE 5W-30	Bucher AG
Motorex Select SP-X	SAE 5W-40	Bucher AG
Motorex Select SP-X	SAE 5W-30	Bucher AG
Motul 8100 X-Clean	SAE 5W-40	Motul S.A.

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Motul 8100 X-Clean	SAE 5W-30	Motul S.A.
Motul 8100 X-Clean +	SAE 5W-30	Motul S.A.
Motul 8100 X-Clean	SAE 5W-40	MOTUL
Motul 8100 X-clean EFE	SAE 5W-30	Motul SA
Motul Expert LL	SAE 5W-30	Motul S.A.
Motul Specific LL-04	SAE 5W-40	Motul S.A.
Motul Synergie LL+	SAE 5W-30	Motul SA
OMV BIXXOL special C3	SAE 5W-30	OMV AG
OMV Bixxol special UP	SAE 5W-30	OMV Refining & Marketing GmbH
OPALJET FUTURA	SAE 5W-40	Unil Opal
OPALJET LONGLIFE 3	SAE 5W-30	Unil Opal
Oest Gigant LS Plus	SAE 5W-30	Georg Oest Mineralölwerk
PANOLIN AVANIS M-C3	SAE 0W-30	PANOLIN
PANOLIN DAYTONA LA	SAE 5W-40	PANOLIN
PAZ Extreme LL-04	SAE 5W-30	PAZ Lubricants & Chemicals
PETRONAS SYNTIUM 3000 AV	SAE 5W-40	Petronas Lubricants International
PETRONAS SYNTIUM 5000 XS	SAE 5W-30	Petronas Lubricants International
PLATINUM PRO XD	SAE 5W-30	Orlen Oil Sp. z o.o.
Pennzoil Euro L	SAE 5W-30	Shell International Petroleum Company
Pennzoil Euro L	SAE 5W-30	Shell International Petroleum Co.Ltd.
Pennzoil Platinum Euro L	SAE 5W-30	Shell International Petroleum Company
Pennzoil Platinum Euro L	SAE 5W-30	Shell Global Solutions Duschland GmbH
Pennzoil Ultra Euro L	SAE 5W-30	Shell International Petroleum Company
Pento High Performance II	SAE 5W-40	Deutsche Pentosin-Werke
Pento Super Performance III	SAE 5W-30	Deutsche Pentosin-Werke
Pentosynth HC	SAE 5W-40	Deutsche Pentosin-Werke
Pentosynth HC	SAE 5W-40	Deutsche Pentosin-Werke GmbH
Platinum MaxEnergy Euro4	SAE 5W-30	Orlen Oil Sp. z o.o.
Platinum Pro V	SAE 5W-30	Orlen
Power Oil Syntec 5W-30 LA	SAE 5W-30	Mitan Mineralöl GmbH
Presteza MSP	SAE 5W-30	Kroon-Oil
Prista Ultra Plus	SAE 5W-40	Prista Oil EAD
Q European Engine Ultra Diesel	SAE 5W-30	Pennzoil-Quaker State
Q8 Formula M Long-Life	SAE 5W-40	Kuwait Petroleum
Q8 Formula Special G Long Life	SAE 5W-30	Kuwait Petroleum
Quaker State Ultimate Durability European L	SAE 5W-30	Shell International Petroleum Co.Ltd.
RAVENOL Arctic Low SAPS ALS	SAE 0W-30	Ravensberger Schmierstoffvertrieb GmbH
RAVENOL HLS	SAE 5W-30	Ravensberger Schmierstoffvertrieb GmbH
RAVENOL REP Racing Extra Performance	SAE 5W-30	Ravensberger Schmierstoffvertrieb GmbH
RAVENOL RUP	SAE 5W-40	Ravensberger Schmierstoffvertrieb GmbH
RAVENOL SMP	SAE 5W-30	Ravensberger Schmierstoffvertrieb GmbH
RAVENOL VMO	SAE 5W-40	Ravensberger

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		Schmierstoffvertrieb GmbH
RAVENOL VMP	SAE 5W-30	Ravensberger Schmierstoffvertrieb GmbH
REPSOL ELITE EVOLUTION	SAE 5W-40	REPSOL LUBRICANTES Y ESPECIALIDADES S.A
RN005963AAAC	SAE 0W-30	ExxonMobil
ROWE HIGHTEC MULTI FORMULA	SAE 5W-40	ROWE MINERALÖLWERK GMBH
ROWE HIGHTEC SYNT RS DLS	SAE 5W-30	Rowe Mineralölwerk GmbH
ROWE Multi Synt DPF	SAE 5W-30	Rowe Mineralölwerk GmbH
RW Auto Force XCE	SAE 5W-30	DEEP OIL TRADING COMPANY LP
RYMCO Orpheus LL-II	SAE 5W-30	VPS International B.V.
Repsol Elite Evolution	SAE 5W-40	Repsol YPF
Repsol Elite Evolution Long Life	SAE 5W-30	Repsol YPF
Rowe Synt RS 5W-30 DLS	SAE 5W-30	Rowe Mineralölwerk GmbH
SRS VIVA 1 SLV plus	SAE 5W-30	SRS Schmierstoff Vertrieb GmbH
SRS VIVA 1 topsynth alpha LA	SAE 5W-30	SRS Schmierstoff Vertrieb GmbH
STRUB Partsynt LA-C3 5W/30	SAE 5W-30	STRUB + Co. AG
Selenia K Pure Energy	SAE 5W-40	Petronas Lubricants International
Shelix Helix Ultra Professional AM-L	SAE 5W-30	Shell International Petroleum Co.Ltd.
Shell Helix Diesel Ultra AB-L	SAE 5W-30	Shell International Petroleum Company
Shell Helix Diesel Ultra Extra	SAE 5W-30	Shell International Petroleum Company
Shell Helix HX7 E	SAE 5W-30	Shell International Petroleum Company
Shell Helix HX7E	SAE 5W-30	Shell International Petroleum Company
Shell Helix HX8 ECT	SAE 5W-40	Shell International Petroleum Company
Shell Helix HX8 ECT	SAE 5W-30	Shell International Petroleum Company
Shell Helix HX8 ECT C3	SAE 5W-30	Shell International Petroleum Company
Shell Helix HX8 ECT C3	SAE 5W-30	Shell International Petroleum Co.Ltd.
Shell Helix Ultra ECT C3	SAE 5W-30	Shell Global Solutions Duschland GmbH
Shell Helix Ultra AM-L	SAE 5W-30	Shell International Petroleum Company
Shell Helix Ultra AT-L	SAE 5W-40	Shell International Petroleum Company
Shell Helix Ultra ECT	SAE 0W-30	Shell International Petroleum Company
Shell Helix Ultra ECT	SAE 5W-30	Shell International Petroleum Company
Shell Helix Ultra ECT	SAE 0W-30	Shell International Petroleum Co.Ltd.
Shell Helix Ultra ECTC3	SAE 5W-30	Shell International Petroleum Co.Ltd.
Shell Helix Ultra ECT Diesel	SAE 5W-30	Shell International Petroleum Company
Shell Helix Ultra Extra	SAE 5W-30	Shell International Petroleum

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		Company
Shell Helix Ultra Professional AB-L	SAE 5W-30	Shell International Petroleum Co.Ltd.
Shell Helix Ultra Professional AM-L	SAE 5W-30	Shell International Petroleum Company
Specialsynth Gold	SAE 5W-30	PHI OIL GmbH
Specialsynth Gold	SAE 5W-40	Phi Oil GmbH
Swd Rheinol Primus DX	SAE 5W-30	Swd Lubricants GmbH & Co. KG
Swd Rheinol Primus LLX	SAE 5W-30	Swd Lubricants GmbH & Co. KG
SynPower MST C3	SAE 5W-40	Valvoline EMEA
Synergy Synthetic EuroSyn	SAE 5W-40	Northland Products Company
TBO&S Action Engine Oil	SAE 5W-30	TBO&S
Tecar Leichtlauf engine oil	SAE 5W-40	Techno-Einkauf GmbH
Tecar Leichtlauf engine oil	SAE 5W-40	TECAR International GmbH
TECAR Engine Oil Special 50400/50700	SAE 5W-30	Techno-Einkauf GmbH
TECAR Special DXII engine oil	SAE 5W-30	Techno-Einkauf GmbH
TECTROL SPEED 530	SAE 5W-30	BayWa AG
TECTROL SPEED LL 530	SAE 5W-30	BayWa
TECTROL SPEED LL 530	SAE 5W-30	BayWa AG
TITAN Supersyn B	SAE 5W-30	Fuchs Petrolub SE
TOTAL QUARTZ INEO MC3	SAE 5W-30	Total Lubrifiants
TSH	SAE 5W-40	Minerva Oil SAS
TSV	SAE 5W-30	MINERVA-OIL SAS
Tamoil Sint Future Energy	SAE 5W-30	Tamoil Italia S.p.A.
Tamoil Sint Future Extra	SAE 5W-40	Tamoil Italia S.p.A.
Texaco Havoline Ultra V	SAE 5W-30	Chevron Global Lubricants
Titan GT1	SAE 5W-40	Fuchs Petrolub AG
Titan GT1 Pro Flex	SAE 5W-30	Fuchs Petrolub AG
Titan GT1 Pro Gas	SAE 5W-40	Fuchs Petrolub AG
Titan GT1 Pro Gas	SAE 5W-30	Fuchs Petrolub AG
Tor Extendo NF	SAE 5W-30	De Oliebron BV
Tor Prolong LSP	SAE 5W-30	De Oliebron BV
Tor Specialsynth BL4	SAE 0W-30	De Oliebron BV
Tor Specialsynth NF	SAE 5W-30	De Oliebron BV
Tor Specialsynth NF	SAE 5W-40	Tor Specialsynth NF
Total Activa Ineo Long Life	SAE 5W-30	Total Lubrifiants
Total Quartz INEO MC3	SAE 5W-40	Total
Total Quartz INEO MC3	SAE 5W-30	Total
Total Quartz Ineo Efficiency	SAE 0W-30	Total
Total Quartz INEO Long Life	SAE 5W-30	Total Lubrifiants
Triathlon Endurance III	SAE 5W-30	Adolf Würth GmbH
Triathlon Endurance III	SAE 5W-30	Adolf Würth GmbH & Co. KG
Triathlon Performance	SAE 5W-40	Adolf Würth GmbH & Co. KG
Ultron Race	SAE 5W-40	Petron Corporation
Valvoline Advanced MST	SAE 5W-40	Valvoline
Valvoline Advanced XL-III	SAE 5W-30	Valvoline
Valvoline SynPower MST	SAE 5W-40	Valvoline
Valvoline SynPower MST	SAE 5W-30	Valvoline
Valvoline SynPower XL-III	SAE 5W-30	Valvoline
Valvoline SynPower MSTC3	SAE 5W-30	Valvoline

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Valvoline VPS Combi C3 SAE 5W-30 Synthetic	SAE 5W-30	Valvoline
Veedol Powertron Ultra	SAE 5W-40	Veedol International
Veedol Sintron C3	SAE 5W-30	Veedol International
Veedol Sintron LongLife III	SAE 5W-30	Veedol International
Velox Ultra SX	SAE 5W-30	Agean Oil SA
Wave Power LE	SAE 5W-30	Transnational Blenders B.V.
Wave Power LL	SAE 5W-30	North Sea Lubricants B.V.
Westfalen LIFETRON	SAE 5W-30	Westfalen AG
Wolf Masterlube Synflow Longlife III	SAE 5W-30	Wolf Oil Corporation N.V.
Wolf Officialtech 5W-30 C3	SAE 5W-30	Wolf Oil Corporation N.V.
Wolf Officialtech 5W-30 LL III	SAE 5W-30	Wolf Oil Corporation N.V.
XADO ATOMIC OIL 5W-40 SM/CF	SAE 5W-40	XADO LUBE B.V.
XTAR 5W30 504 507	SAE 5W-30	CEPSA Comercial Petóleo, S.A.
XTAR 5W30 C3/D2 DPF	SAE 5W-30	CEPSA Comercial Petroleo S.A.U
XTC S9	SAE 5W-30	Bardahl Asia Pacific Pte Ltd
XTeer TOP 5W30	SAE 5W-30	HYUNDAI OILBANK CO.LTD
YACCO LUBE DE	SAE 5W-30	Yacco S.A.S.
Yacco Lube DE	SAE 0W-30	Yacco S.A.S.
Yacco VX 1000 FAP	SAE 5W-40	Yacco S.A.S.
ZIC A+	SAE 5W-30	SK Energy Co., Ltd
ZIC XQ LS	SAE 5W-30	SK Lubricants
ZIC XQ RV	SAE 5W-40	SK Energy Co., Ltd
ad-High Tech 5W-30 Longlife III	SAE 5W-30	CARAT GmbH & Co.KG
ad-High Tech 5W-30 Longlife III	SAE 5W-30	CARAT Systementw.- und Marketing GmbH & Co. KG
ad-High Tech 5W-30 d2	SAE 5W-30	CARAT Systementw.- und Marketing GmbH & Co. KG
ad-High Tech 5W--40 DPF	SAE 5W-40	CARAT Systementw.- und Marketing GmbH & Co.KG
eni i-Sint	SAE 5W-30	eni Schmiertechnik GmbH
eni i-Sint MS	SAE 5W-40	eni Schmiertechnik GmbH
eni i-Sint MS	SAE 5W-30	eni Schmiertechnik GmbH
masteroil c-tec power vario	SAE 5W-30	masteroil GmbH
megol Motorenoel Compatible	SAE 5W-30	Meguin GmbH & Co. KG
megol Engine Oil Efficiency	SAE 5W-30	Meguin GmbH & Co. KG
megol Engine Oil Efficiency G	SAE 5W-30	Meguin GmbH & Co. KG
megol Engine Oil Low Emission	SAE 5W-40	Meguin GmbH & Co. KG
megol Engine Oil New Generation	SAE 5W-30	Meguin GmbH & Co. KG
multilub 5W-40 DPF	SAE 5W-40	Globus Fachmärkte GmbH & Co. KG
swd Primus DXM	SAE 5W-40	Swd Lubricants GmbH & Co. KG

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7.0 BMW Longlife-12 FE

BMW Longlife-12 FE engine oils are released for certain BMW Group diesel engines from model year 2014 with the designation 14d, 16d, 18d, 20d and 30d (exception F3x 30d from model year 2019). BMW Longlife-12 FE engine oils are generally permitted for BMW petrol engines with petrol particulate filters. For BMW Group petrol engines without petrol particulate filter from model year 2002, BMW Longlife-12 FE engine oil is only approved for the European region including Norway, Switzerland and Liechtenstein.

Refer to the document "Technically appropriate engine oils for BMW Group engines" for detailed release information.

Product availability may vary depending on specific market.

SAE 0W-30

Trade name	Container size	BMW Group part number USA, Canada, Mexico	BMW Group part number Japan, Indonesia, Thailand, South Korea	BMW Group part number China	BMW Group part number Rest of World
BMW Engine OilLL-12FE 0W-30	1000 ml, TU	83 21 2 405 946**	83 21 2 405 946**		83 21 2 405 946**
MINI Engine OilLL-12FE 0W-30	1000 ml, TU	83 21 2 406 985**	83 21 2 406 985**		83 21 2 406 985**
BMW GroupLL-12 FE 0W-30	209 litres	83 21 2 405 080	83 21 2 405 634	---	83 21 2 405 097*
BMW GroupLL-12 FE 0W-30	55 litre	---	---	---	83 21 2 405 666*
BMW M TwinPower TurboLL-12 FE 0W-30	1 litre	---	83 21 2 469 985	---	83 21 2 469 984*
BMW TwinPower Turbo LL-12 FE 0W-30	1 litre	83 21 2 365 951	83 21 2 405 601	---	83 21 2 365 935*
MINI Original Engine OilLL-12 FE 0W-30	1 litre	83 21 2 365 952	83 21 2 405 602	---	83 21 2 365 936*
Rolls-Royce Genuine OilLL-12 FE 0W-30	2 litre	83 21 2 462 944	---	83 21 2 462 939	83 21 2 462 942*

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* Please order from **www.markethub.shell.com** or contact your local Shell partner.

** TU = trade unit. TU numbers cannot be ordered! For invoicing purposes only.

*** Only in South Korea

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7.0 BMW Longlife-12 FE

BMW Longlife-12 FE engine oils are released for certain BMW Group diesel engines from model year 2014 with the designation 14d, 16d, 18d, 20d and 30d (exception F3x 30d from model year 2019). BMW Longlife-12 FE engine oils are generally permitted for BMW petrol engines with petrol particulate filters. For BMW Group petrol engines without petrol particulate filter from model year 2002, BMW Longlife-12 FE engine oil is only approved for the European region including Norway, Switzerland and Liechtenstein.

Refer to the document "Technically appropriate engine oils for BMW Group engines" for detailed release information.

Product availability may vary depending on specific market.

SAE 0W-30

Trade name	Container size	BMW Group part number USA, Canada, Mexico	BMW Group part number Japan, Indonesia, Thailand, South Korea	BMW Group part number China	BMW Group part number Rest of World
BMW Engine OilLL-12FE 0W-30	1000 ml, TU	83 21 2 405 946**	83 21 2 405 946**		83 21 2 405 946**
MINI Engine OilLL-12FE 0W-30	1000 ml, TU	83 21 2 406 985**	83 21 2 406 985**		83 21 2 406 985**
BMW GroupLL-12 FE 0W-30	209 litres	83 21 2 405 080	83 21 2 405 634	---	83 21 2 405 097*
BMW GroupLL-12 FE 0W-30	55 litre	---	---	---	83 21 2 405 666*
BMW M TwinPower TurboLL-12 FE 0W-30	1 litre	---	83 21 2 469 985	---	83 21 2 469 984*
BMW TwinPower Turbo LL-12 FE 0W-30	1 litre	83 21 2 365 951	83 21 2 405 601	---	83 21 2 365 935*
MINI Original Engine OilLL-12 FE 0W-30	1 litre	83 21 2 365 952	83 21 2 405 602	---	83 21 2 365 936*
Rolls-Royce Genuine OilLL-12 FE 0W-30	2 litre	83 21 2 462 944	---	83 21 2 462 939	83 21 2 462 942*

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Rolls-Royce Genuine Oil LL-12 FE 0W-30 SAE 0W-30

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Trade name	BMW part number	Container
12FE		
Swd Rheinol Primus LLB	SAE 0W-30	Swd Lubricants GmbH & Co.KG
TBX	SAE 0W-30	MINERVA-OIL
Top Tec 6100	SAE 0W-30	LIQUI MOLY GmbH
Tor Specialsynth B12	SAE 0W-30	Smeermiddelen Industrie De Oliebron B.V.
Total Quartz Ineo Dynamics	SAE 0W-30	Total Lubrifiants
Valvoline SynPower LL-12 FE	SAE 0W-30	Valvoline
Veedol Sintron B	SAE 0W-30	Veedol International
YACCO LUBE BM-12	SAE 0W-30	Yacco S.A.S.
masteroil c-tec special B FE	SAE 0W-30	masteroil GmbH
megol motor oil Future LL 12 FE	SAE 0W-30	Meguin GmbH & Co. KG

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8.0 BMW Longlife-14 FE+

BMW Longlife-14 FE+ engine oils are only approved for certain BMW Group petrol engines without petrol particulate filter as from model year 2014 in the region of Europe including Norway, Switzerland, Liechtenstein as well as the USA and Canada. There is no release for diesel engines.

Refer to the document "Technically appropriate engine oils for BMW Group engines" for detailed release information.

Product availability may vary depending on specific market.

SAE 0W-20

Trade name	Container size	BMW Group part number USA, Canada	BMW Group part number Japan, Indonesia, Thailand, South Korea	BMW Group part number China	BMW Group part number Rest of World
BMW Engine OilLL-14FE+ 0W-20	1000 ml, TU	83 21 2 405 949**	---	---	83 21 2 405 949**
MINI Engine OilLL-14FE+ 0W-20	1000 ml, TU	83 21 2 406 988**	---	---	83 21 2 406 988**
BMW TwinPower Turbo LL-14 FE+ 0W-20	1 litre	83 21 2 365 954	---	---	83 21 2 365 926*
MINI Original Engine OilLL-14 FE+ 0W-20	1 litre	83 21 2 365 955	---	---	83 21 2 365 927*
BMW GroupLL-14 FE+ 0W-20	209 litres	83 21 2 405 079	---	---	83 21 2 405 096*
BMW GroupLL-14 FE+ 0W-20	55 litre	---	---	---	83 21 2 405 669*
BMW GroupLL-14 FE+ 0W-20	Fuel tank	83 21 2 457 111	---	---	---

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BMW Engine Oil LL14FE+ 0W20 SAE 0W-20

83 21 2 405 949**

Trade name	BMW part number	Container
BMW TwinPower Turbo LL-14 FE+ 0W-20		1 litre

MINI Engine Oil LL-14 FE+ 0W-20 SAE 0W-20

83 21 2 406 988**

Trade name	BMW part number	Container
MINI Original Engine Oil LL-14 FE+ 0W-20		1 litre

BMW Engine Oil LL14FE+ 0W20 SAE 0W-20

83 21 2 405 949**

Trade name	BMW part number	Container
BMW GROUP LL-14 FE+ 0W-20		209 litres
BMW GROUP LL-14 FE+ 0W-20		55 litre
BMW GROUP LL-14 FE+ 0W-20		Fuel tank

Named approved oils

Trade name	Viscosity	Producer
Castrol EDGE Professional LL 14 FE+	SAE 0W-20	Castrol Limited
MOTOREX CONCEPT B-XL SAE 0W/20	SAE 0W-20	BUCHER AG LANGENTHAL
Motul Specific LL-14 FE+	SAE 0W-20	Motul
PENTOSPEED LL-14	SAE 0W-20	FUCHS SCHMIERSTOFFE GMBH
Quantum Ultra B	SAE 0W-20	FUCHS PTEROLUB SE
TITAN GT1 EVO	SAE 0W-20	Fuchs Petrolub SE

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9.0 BMW Longlife-17 FE+

BMW Longlife-17 FE + engine oils are only permitted for certain BMW Group petrol engines with and without petrol particulate filter from model year 2014. There is no release for diesel engines.

Refer to the document "Technically appropriate engine oils for BMW Group engines" for detailed release information.

Product availability may vary depending on specific market.

SAE 0W-20

Trade name	Container size	BMW Group part number USA, Canada	BMW Group part number Rest of World
BMW Engine Oil LL17FE+ 0W20	1000 ml, TU	83 21 2 463 695**	83 21 2 463 695**
MINI Engine Oil LL17FE+ 0W20	1000 ml, TU	83 21 2 463 696**	83 21 2 463 696**
BMW TwinPower Turbo LL-17 FE+ 0W-20	1 litre	83 21 2 461 988	83 21 2 463 697*
MINI Original Engine Oil LL-17 FE+ 0W-20	1 litre	83 21 2 461 989	83 21 2 463 698*
BMW GROUP LL-17 FE+ 0W-20	209 litres	83 21 2 461 990	---
BMW GROUP LL-17 FE+ 0W-20	Fuel tank	83 21 2 461 991	--

* Please order from **www.markethub.shell.com** or contact your local Shell partner.

** TU = trade unit. TU numbers cannot be ordered! For invoicing purposes only.

*** Only in South Korea

**** Only in Japan

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Please order from www.markethub.shell.com or contact your local Shell partner.
TU = trade unit. TU numbers cannot be ordered! Only for invoicing purposes!
Only in South Korea.
Only in Japan

BMW Engine Oil LL-17 FE+ 0W20 SAE 0W-20

83 21 2 463 695**

Trade name	BMW part number	Container
BMW TwinPower Turbo LL-17 FE+ 0W-20		1 litre

BMW Engine Oil LL-17 FE+ 0W20 SAE 0W-20

83 21 2 463 695**

Trade name	BMW part number	Container
BMW GROUP LL-17 FE+ 0W-20		209 litres
BMW GROUP LL-17 FE+ 0W-20		Fuel tank

MINI Engine Oil LL-17 FE+ 0W20 SAE 0W-20

83 21 22 463 696**

Trade name	BMW part number	Container
MINI Original Engine Oil LL-17 FE+ 0W-20		1 litre

Named approved oils

Trade name	Viscosity	Producer
ELF EVOLUTION FULL-TECH APX	SAE 0W-20	TOTAL Lubrifiants
Mabanol Xenon Alpha FE	SAE 0W-20	Mabanol GmbH & Co. KG
RAVENOL EFS	SAE 0W-20	Ravensberger Schmierstoffvertrieb GmbH
ROWE HIGHTEC SYNT RS C5	SAE 0W-20	ROWE MINERALÖLWERK GMBH
SRS ViVA 1 ecosynth FE	SAE 0W-20	SRS Schmierstoff Vertrieb GmbH
TOTAL QUARTZ INEO DYNAMICS	SAE 0W-20	TOTAL Lubrifiants

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10.0 SAE 10W-60

The engine oil SAE 10W-60 is released for certain petrol engines of the BMW M vehicles. For diesel engines, there is only one release for the engine N47S up to production date 09/2008.

Refer to the document "Technically appropriate engine oils for BMW Group engines" for detailed release information.

Product availability may vary depending on specific market.

SAE 10W-60

Trade name	Container size	BMW Group part number USA, Canada, Mexico	BMW Group part number Japan, Indonesia, Thailand, South Korea	BMW Group part number China	BMW Group part number Rest of World
BMW Engine Oil10W-60	1000 ml, TU	83 21 2 405 943**	83 21 2 405 943**	83 21 2 405 943**	83 21 2 405 943**
BMW M TwinPower Turbo10W-60	1 litre	83 21 2 365 944	83 21 2 405 600	83 21 2 365 509	83 21 2 365 924*
BMW GROUP10W-60	55 litre				83 21 2 405 672*
BMW GROUP10W-60	209 litres	83 21 2 405 081			83 21 2 405 094*

* Please order from **www.markethub.shell.com** or contact your local Shell partner.

** TU = trade unit. TU numbers cannot be ordered! For invoicing purposes only.

Names of approved oils for petrol engines

Trade name	Viscosity	Manufacturer
Castrol Edge Professional TWS	SAE 10W-60	Castrol Limited
Castrol Edge	SAE 10W-60	Castrol Limited

Names of approved oils for diesel engine N47S up to production date 09/2008

Trade name	Viscosity	Manufacturer
Castrol Edge Professional TWS	SAE 10W-60	Castrol Limited
Castrol Edge	SAE 10W-60	Castrol Limited
Mobil 1	SAE 5W-50	Exxon Mobil

In future an engine oil for which BMW has not given its approval will be sold under the previous trade name!

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Enclosure 7 to SI 11 07 96 (138), edition 02/2019

Many customer complaints about engine oil consumption are caused by incorrect measuring procedures.

An engine oil consumption measurement should be carried out after a mileage of 7500 km, since the engine run-in process is essentially complete by this time, and the engine oil consumption has stabilised.

The level of engine oil consumption that may arise with a particular engine can be determined by the customer only from the amount of engine oil he or she tops up with. As soon as the engine oil level falls below the maximum mark on the dipstick, many customers top up the engine oil without paying attention to a number of basic rules, such as the vehicle must be standing on level ground, a certain period of time must be left to allow the engine oil to flow back to the sump. In such cases, the available container sizes (e.g. 1-litre can) make it easy to top up above the maximum mark. Excess engine oil can cause engine damage and is consumed more quickly due to the effects of splash.

For this reason, our advice is to let the oil level drop to the minimum mark and only then to top up the required oil quantity. The distance between the two marks is approximately 2.0 litres.

The procedure for checking the engine oil level is given in the Owner's Handbook for the vehicle concerned.

The service delegates will only deal with claims made under warranty if exact measurements by weighing are available (see below).

Engine oil consumption measurement by balancing out

To assess a warranty or goodwill claim, only the following engine oil consumption measurement method by balancing out can be accepted (this must have been carried out by a BMW authorised workshop):

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Note:

The engine must not leak any oil.

Engine oil may only be drained off when the engine is at its normal operating temperature. The engine oil temperature must be at least 95 °C and read off on the diagnosis system.

1. Eliminate any leaks before measuring the engine oil consumption.
2. Allow the engine to run at idling speed for 5 minutes, during which the engine oil temperature must not drop below 90 °C.
3. Unscrew the main flow oil filter cover (the engine oil will flow back into the oil sump from the oil filter housing).
4. Unscrew the oil drain plug.
5. Allow the engine oil to drain off for 15 minutes.
6. Turn the engine once through 360 degrees by the vibration damper.
7. Allow the engine oil to drain off for 15 minutes.
8. Retighten the primary flow oil filter.
9. Pour in the specified engine oil quantity for the engine type in question (with filter change).
10. Drive the vehicle for a distance of about 1,000 km. Increasing the distance will produce significantly better measuring results.
11. Drain off the engine oil as described in steps 1 to 8, collecting it in a suitable receptacle.

12. Weight the **amount of drained engine oil**. (Engine oil at room temperature has a density of approx. 0.86 g/cm^3)

For the calculation of oil consumption, the **Record on oil consumption measurement** in Enclosure 12.0 must be used.

$$\text{Engine oil consumption} = \frac{\text{Oil quantity added } (cm^3) \text{ - } \textbf{engine oil quantity drained off} \text{ (g): } 0.86\ g/cm^3}{\text{mileage reading when draining - mileage reading when adding engine oil}}$$

Example:

Volume of oil added at mileage reading 44,800: 4,000 cm^3

Weight of oil added at mileage reading 45,900: 2.700 g

$$\text{Engine oil consumption} = \frac{4.000\ cm^3 - 2.700\ g: 0.86\ g/cm^3}{45{,}900\ km - 44{,}800\ km} = 0.78\ cm^3/km$$

$$0.78\ cm^3/km = 0.78\ l/1{,}000\ km$$

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Enclosure 11 to SI 11 07 96 (138), edition 02/2019

Caution!

> Because of the design of the oil sump, this procedure for engine oil consumption measurement may be used *only on the S 85 with one oil drain plug (= manufacturing period: start of series production until March 2007)*.

Many customer complaints about oil consumption are caused by incorrect measuring procedures.

Engine oil consumption measurement should be carried out after 7,500 km at the earliest, as it is only then that the running-in process of the vehicle is completed to a large extent and the oil consumption has stabilised.

The oil consumption that may arise with a particular engine can be determined by the customer only from the oil quantity he or she tops up with. As soon as the oil level falls below the maximum mark on the dipstick, engine oil is topped up without paying attention to some basic rules, such as the vehicle must be standing on level ground, a certain period of time must be left to allow the oil to flow back to the sump, etc. In such cases, the available container sizes (e.g. 1-litre can) make it easy to top up above the MAX mark. Excess oil can cause engine damage and is consumed more quickly due to the effects of splash.

For this reason, our advice is to let the oil level drop to the minimum mark and only then to top up the required oil quantity.

The distance between the two marks is approximately 1.0 - 1.5 litres.

The specified procedure for checking the engine oil level is given in the respective Owner's Handbook.

The service delegates will only deal with claims made under warranty if exact measurements by weighing are available (see below).

Important information concerning S85:

Design configuration of the oil sump:

The oil sump is divided into two sections. It is divided into a front and a rear oil sump. A pump transfers the oil in the front sump to the rear (main) sump. If the oil level is above the maximum, the oil level is above the elevation that separates the front and rear sump. In such cases, the excess oil will overflow back into the front sump.

Oil drain plug(s):

S85, manufacturing period: start of series production until March 2007:

- One oil drain plug on rear (main) sump

S85, manufacturing period: start of series production from April 2007:

- One oil drain plug on rear (main) sump
- A second oil drain plug on the front sump (accessible after removing the reinforcement plate)

Fluctuations in oil level due to chemical and physical causes:

Depending on vehicle state

- Engine cold/hot
- Urban driving, cross-country driving, motorway driving

the oil level will rise due to fuel entrainment and drop due to loss through condensation.

The main factor is the proportion of fuel in the oil. The proportion of fuel in the oil will rise above all during low-rev trips in urban traffic with the associated high levels of injection. Under extreme conditions, the quantity of oil can rise by 15% or 2 litres due to fuel entrainment.

When changing from frequent city driving to motorway driving, condensation is released (via the crankcase ventilation). Fuel in the engine oil is dissipated. The oil level drops again.

These chemical and physical causes result in relatively large fluctuations in the oil level. The customer interprets this situation as an apparently high oil consumption or as a fault in the measuring equipment.

Oil level display concept:

To prevent the driver being confused by a constantly fluctuating oil level, changes are only displayed if they exceed a certain threshold value.

Upwards:

- Changes less than +0.5 litres are not displayed

Downwards:

- As a rule: If the change is between -0.1 litres and -0.4 litres, the displayed value reduces gradually in steps of 0.1 litre
- If the change is greater than -0.4 litres, the display will reduce by the actual value

Overfilling:

The maximum value that can be displayed in the instrument cluster is +0.5 litre above maximum (when the oil level is called up, 1.5 litres are displayed, the bar is completely filled). This can cause problems of the overfilled quantity is greater. The diagnosis and information system tester is able to recognise overfilling of up to 3.5 litres above maximum.

Oil level sensor (QLT):

If an oil level sensor with status until November 2006 is fitted, the display may tend to jump.

Cause: The immersion pipe in the oil level sensor is not coated. Deposits of metal chippings can cause a short circuit.

Measure: Replacement of oil level sensor on vehicles with date of production until November 2006.

Dealing with problem:

The table below shows the actions needed for specific problems under given general conditions and their causes.

Problem	General conditions	Cause	Solution
Isolated or repeated downward jumps in the oil-level check ≥ 0.4 litres, possibly isolated upward jump of the oil-level check > 0.5 litres	No extreme variations in driving profile (no change between urban/motorway, race circuit)	For major jumps: short circuit in oil level sensor due to metallic particles (affected manufacturing period: start of series production until November 2006)	Replace oil level sensor. Note: Oil level sensors from November 2006 have a coated inner pipe that prevents a short circuit due to metallic chipping

Isolated or repeated downward jumps in the oil-level check ≥ 0.4 litres	Extremely variable driving profile (frequent urban traffic, then motorway)	Any fuel in the engine oil is dissipated	No action needed
Isolated or repeated downward jumps in the oil-level check by about 0.1 litres	Extremely variable driving profile (frequent urban traffic, then motorway)	Any fuel in the engine oil is dissipated.	No action needed
Isolated upward jump in the oil-level check ≥ 0.5 litres	Extreme driving profile: Permanent urban traffic, cold engine	Rising engine oil level due to fuel entering the engine oil	No action needed
Repeated jumps, both upwards and downwards, in the oil-level check	Wrong engine oil: SAE 10W-60 not used	Incorrect viscosity: Deviation from QLT map	Change oil
No change in display despite engine oil being topped up	Topping up quantity < 0.5 litre	Display concept	No action needed
Isolated upward jump in the oil-level check 0.5 litres (up to 0.9 litres)	Several top ups < 0.5 litres	Display concept	No measures needed, drain engine oil in case of overfilling (determine degree of overfilling with diagnosis and information system tester)
Display 1.5 litres	Engine oil previously changed or topped up	Overfilling	In the case of overfilling, drain engine oil (determine degree of overfilling with diagnosis and information system tester)
High engine oil consumption > 1 litre/1000 km	Use of approved oil types, correctly performed measurement, slowly dropping display, no extremely sporty driving style, no frequent full-load driving	Possible defect in engine	Engine oil consumption measurement as per SI 11 07 96 (138), Enclosure 11.0

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Weighing:

1. The engine must not leak any oil. Possible leaks must be rectified prior to determining the oil consumption.

   Note:

   Drain off the engine oil while the engine is at normal operating temperature. Read out the engine oil temperature, at least 95°C, with the diagnosis system.

2. Drive the vehicle at least 50 km in the medium to high load range to allow any fuel in the engine oil to be dissipated (by means of condensation).

3. Read out the oil level with the diagnosis system. It must be certain that there is no overfill situation. In the case of overfilling: Drain engine oil. Top up one litre less than the prescribed oil quantity.

   Notes:

   In an overfill situation, there will be up to one litre of oil in the front sump that cannot be drained off!

4. Allow the engine to run at idling speed for 5 minutes, during which the engine oil temperature must not drop below 90 °C.

   Note:

   Allowing the engine to idle causes a pump to transfer the oil in the front sump to the rear (main) sump. This ensures that there is no oil in the front sump.

5. Unscrew the primary flow oil filter drain plug.
6. Unscrew the oil drain plug.
7. Allow the engine oil to drain off for 15 minutes.
8. Turn the engine once through 360° by the vibration damper.
9. Allow the engine oil to drain off for 15 minutes.
10. Seal the primary flow oil filter drain plug.
11. Pour in the prescribed amount of oil for the relevant engine type. (Because the engine oil has been drained from the oil filter, the same quantity of oil must be added as if an oil filter change has taken place.) Oil filter renewal is not permitted!
12. Drive the vehicle for a distance of at least 1000 km. Increasing the mileage, clearly improves the measuring results.

- Immediately before the engine oil consumption measurement: Drive the vehicle at least 50 km in the medium to high load range to allow any fuel in the engine oil to be dissipated (by means of condensation).

- Read out the oil level with the diagnosis system. It must be certain that there is no overfill situation. In an overfill situation, there will be an undefined quantity (up to one litre) in the front sump that cannot be drained off!

  Because of this undefined quantity of oil in the front sump and the fact that the engine has been operated with too much oil (overfilling), *a correct engine oil consumption measurement is not possible.*

- To drain off engine oil: Perform the steps 4 to 9 described above.

- Weigh the oil quantity drained off.

  Engine oil has a density of about 0.86 g/ccm at room temperature.

- Oil consumption =

  Amount of oil added (ccm) - amount of oil drained off (g): 0.86 g/ccm

  Odometer reading at start - odometer reading when filling oil

- Example:

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Oil quantity filled at odometer reading of 44,800: 4,000 ccm

Oil quantity drained at odometer reading of 45,900: 2,700 g

Oil consumption =

4,000 ccm - 2700 g 0.86 g/ccm

45,900 km - 44,800 km

= 0.78l/1,000 km

Test certificate for engine oil consumption:

Please refer to Enclosure 12.0

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Enclosure 11 to SI 11 07 96 (138), edition 02/2019

Caution!

> Because of the design of the oil sump, this procedure for engine oil consumption measurement may be used *only on the S 85 with two oil drain plugs (= manufacturing period: start of series production from April 2007)*.

Many customer complaints about engine oil consumption are caused by incorrect measuring procedures.

Engine oil consumption measurement should be carried out after 7,500 km at the earliest, as it is only then that the running-in process of the vehicle is completed to a large extent and the oil consumption has stabilised.

The oil consumption that may arise with a particular engine can be determined by the customer only from the oil quantity he or she tops up with. As soon as the oil level falls below the maximum mark on the dipstick, engine oil is topped up without paying attention to some basic rules, such as the vehicle must be standing on level ground, a certain period of time must be left to allow the oil to flow back to the sump, etc. In such cases, the available container sizes (e.g. 1-litre can) make it easy to top up to above the maximum mark. Excess oil can cause engine damage and is consumed more quickly due to the effects of splash.

For this reason, our advice is to let the oil level drop to the minimum mark and only then to top up the required oil quantity.

The distance between the two marks is approximately 1.0 - 1.5 litres.

The specified procedure for checking the engine oil level is given in the respective Owner's Handbook.

The service delegates will only deal with claims made under warranty if exact measurements by weighing are available (see below).

Important information concerning S85:

Design configuration of the oil sump:

The oil sump is divided into two sections. It is divided into a front and a rear oil sump. A pump transfers the oil in the front sump to the rear (main) sump. If the oil level is above the maximum, the oil level is above the elevation that separates the front and rear sump. In such cases, the excess oil will overflow back into the front sump.

Oil drain plug(s):

S85, manufacturing period: start of series production until March 2007:

- One oil drain plug on rear (main) sump

S85, manufacturing period: start of series production from April 2007:

- One oil drain plug on rear (main) sump
- A second oil drain plug on the front sump (accessible after removing the reinforcement plate)

Fluctuations in oil level due to chemical and physical causes:

Depending on vehicle state

- Engine cold/hot

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- Urban driving, cross-country driving, motorway driving

the oil level will rise due to fuel entrainment and drop due to loss through condensation.

The main factor is the proportion of fuel in the oil. The proportion of fuel in the oil will rise above all during low-rev trips in urban traffic with the associated high levels of injection. Under extreme conditions, the quantity of oil can rise by 15% or 2 litres due to fuel entrainment.

When changing from frequent city driving to motorway driving, condensation is released (via the crankcase ventilation). Fuel in the engine oil is dissipated. The oil level drops again.

These chemical and physical causes result in relatively large fluctuations in the oil level. The customer interprets this situation as an apparently high oil consumption or as a fault in the measuring equipment.

Oil level display concept:

To prevent the driver being confused by a constantly fluctuating oil level, changes are only displayed if they exceed a certain threshold value.

Upwards:

- Changes less than +0.5 litres are not displayed

Downwards:

- As a rule: If the change is between -0.1 litres and -0.4 litres, the displayed value reduces gradually in steps of 0.1 litre
- If the change is greater than -0.4 litres, the display will reduce by the actual value

Overfilling:

The maximum value that can be displayed in the instrument cluster is +0.5 litre above maximum (when the oil level is called up, 1.5 litres are displayed, the bar is completely filled). This can cause problems of the overfilled quantity is greater. The diagnosis and information system tester is able to recognise overfilling of up to 3.5 litres above maximum.

Oil level sensor (QLT):

If an oil level sensor with status until November 2006 is fitted, the display may tend to jump.

Cause: The immersion pipe in the oil level sensor is not coated. Deposits of metal chippings can cause a short circuit.

Measure: Replacement of oil level sensor on vehicles with date of production until November 2006.

Dealing with problem:

The table below shows the actions needed for specific problems under given general conditions and their causes.

Problem	General conditions	Cause	Solution
Isolated or repeated downward jumps in the oil-level check ≥ 0.4 litres, possibly isolated upward	No extreme variations in driving profile (no change between urban/motorway, race circuit)	For major jumps: short circuit in oil level sensor due to metallic particles (affected manufacturing period: start of series	Replace oil level sensor. Note: Oil level sensors from November 2006 have a coated inner pipe that

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jump of the oil-level check > 0.5 litres		production until November 2006)	prevents a short circuit due to metallic chipping
Isolated or repeated downward jumps in the oil-level check ≥ 0.4 litres	Extremely variable driving profile (frequent urban traffic, then motorway)	Any fuel in the engine oil is dissipated	No action needed
Isolated or repeated downward jumps in oil level display by about 0.1 litre	Extremely variable driving profile (frequent urban traffic, then motorway)	Any fuel in the engine oil is dissipated.	No action needed
Isolated upward jumps in oil level display ≥ 0.5 litres	Extreme driving profile: Permanent urban traffic, cold engine	Rising engine oil level due to fuel entering the engine oil	No action needed
Repeated jumps, both upward and downward, in oil level display	Wrong engine oil: SAE 10W-60 not used	Incorrect viscosity: Deviation from QLT map	Change oil
No change in display despite engine oil being topped up	Topping up quantity < 0.5 litre	Display concept	No action needed
Isolated upward jump in oil level display > 0.5 litre (up to 0.9 litre)	Several top ups < 0.5 litres	Display concept	No measures needed, drain engine oil in case of overfilling (determine degree of overfilling with diagnosis and information system tester)
Display 1.5 litres	Engine oil previously changed or topped up	Overfilling	In the case of overfilling, drain engine oil (determine degree of overfilling with diagnosis and information system tester)
High engine oil consumption > 1 litre/1000 km	Use of approved oil types, correctly performed measurement, slowly dropping display, no extremely sporty driving style, no frequent full-load driving	Possible defect in engine	Engine oil consumption measurement as per SI 11 07 96 (138), Enclosure 11.0

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Weighing:

1. The engine must not leak any oil. Possible leaks must be rectified prior to determining the oil consumption.

   Note:

Drain off the engine oil while the engine is at normal operating temperature. Read out the engine oil temperature, at least 95°C, with the diagnosis system.

2. Drive the vehicle at least 50 km in the medium to high load range to allow any fuel in the engine oil to be dissipated (by means of condensation).
3. Allow the engine to run at idling speed for 5 minutes, during which the engine oil temperature must not drop below 90 °C.
4. Unscrew the primary flow oil filter drain plug.
5. Unscrew the oil drain plug on rear (main) sump.
6. Allow the engine oil to drain off for 15 minutes.
7. Remove reinforcement plate.
8. Unscrew the oil drain plug on the front sump.
9. Turn the engine once through 360° by the vibration damper.
10. Allow the engine oil to drain off for 15 minutes.
11. Seal the primary flow oil filter drain plug.
12. Pour in the prescribed amount of oil for the relevant engine type. (Because the engine oil has been drained from the oil filter, the same quantity of oil must be added as if an oil filter change has taken place.) Oil filter renewal is not permitted!
13. Drive the vehicle for a distance of at least 1000 km. Increasing the mileage, clearly improves the measuring results.

- Immediately before the engine oil consumption measurement: Drive the vehicle at least 50 km in the medium to high load range to allow any fuel in the engine oil to be dissipated (by means of condensation).
- To drain off engine oil: Perform the steps 3 to 10 described above.
- Weigh the oil quantity drained off.

  Engine oil has a density of about 0.86 g/ccm at room temperature.
- Oil consumption =

  Amount of oil added (ccm) - amount of oil drained off (g): 0.86 g/ccm

  Odometer reading at start - odometer reading when filling oil
- Example:

  Oil quantity filled at odometer reading of 44,800: 4,000 ccm

  Oil quantity drained at odometer reading of 45,900: 2,700 g

  Oil consumption = *4,000 ccm - 2700 g 0.86 g/ccm*

  45,900 km - 44,800 km

  = 0.78l/1,000 km

Test certificate for engine oil consumption:

Please refer to Enclosure 12.0

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Enclosure 12 to SI 11 07 96 (138), edition 02/2019

Vehicle data: _____

BMW Group (type): _____

Chassis number: _____

Note:

Document 11.0 Engine oil consumption measurement must be observed for the record on oil consumption measurement.

Amount of Engine oil quantity	**= _____(cm³)**	**Odometer reading (1): _____km**

Weigh the amount of drained engine oil	= _____g	; oil density = 0.86 g/cm³
Quantity of engine oil drained off	= Mass / density of engine oil drained	= _____(g)/0.86 (g/cm³)

Result:		
Quantity of engine oil drained off	**= _____(cm³)**	**Odometer reading (2): _____km**

Calculating engine oil consumption =	**Quantity of engine oil added –**	**= _____cm³ -**
	Quantity of engine oil drained off	**_____cm³**

Result:	
Engine oil consumption	**= _____ (cm³)**

Calculating the distance travelled =	**Odometer reading (2) - Odometer reading (1)**	**= _____km - _____km**

Result:	**= _____ km**
Distance travelled	

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Engine oil consumption (in l)	= Engine oil consumption (in cm^3)/1000 = _____l
Secondary variables x	= 1000 km / mileage = 1000 km/ _____km = _____
Engine oil consumption according to weighing	= (engine oil consumption * x) = (_____l * _____)
Result:	
Engine oil consumption according to weighing	**= _____l/1000 km**

Engine oil consumption according to weighing: _____ l/1000 km

Engine oil brand: _____

Oil grade: _____

Viscosity: _____

Cause of damage: _____

_____ _____

Dealer address Signature

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11 00 ... Overview of consumables (Electronic Parts Catalogue)

1.0 Sealing compound for **injection**.

	Repair instructions(engine)	Designation, Electronic Parts Catalogue	Part number, Electronic Parts Catalogue	Application examples
1.1	S55, S65, S85	Loctite 171000 primer	83 19 7 515 683	For hardening Loctite 193140 sealing compound
1.2	S55, S65, S85	Loctite 193140 liquid sealing compound	83 19 0 439 030	Sealing between crankcase upper and lower halves
1.7	W20	Dow Corning liquid sealing compound	07 58 0 397 777	Sealing between crankcase upper and lower halves Sealing of oil sump

2.0 Sealing compound for **application**.

	Designation in repair instructions	Designation, Electronic Parts Catalogue	Part number, Electronic Parts Catalogue	Application examples
2.1	M41, M47, M47TU, M47T2, M50, M51, M52, M52TU, M54, M57, M57TU, M57T2, M60, M62 N12, N14, N16, N18 N20, N26 N40, N42, N45, N45N, N46, N46N, N43, N47, N47top, N47C N47D1 N51, N52, N52N, N53, N54, N55, N57, N57T, N62, N62TU, N63, N63O1 N73, N73H, N74 S14, S38, S50, S52, S54, S62, S65, S85	Drei Bond 1209 liquid sealing compound	07 58 9 062 376	For sealing junction points on crankcase
2.2	N12, N13, N14, N16, N18, N20, N26, N40, N42,N43, N45, N46, N51, N52, N53, N54, N55	Loctite 5970 liquid sealing	83 19 0 404 517	Sealing between

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	W10, W11, W16,	compound		crankcase upper and lower sections.
2.2	N47top, N47D1, N47C1 N57D1 N57S1, B32 ,B36 ,B37 ,B38 ,B42 ,B46 ,B47 ,B48 ,B57 ,B58	Loctite 5970 liquid sealing compound	83 19 0 404 517	Timing case cover sealing, oil sump, coolant pump, component carrier.
2.3	N12, N14, N16, N18 W16	Loctite 648 liquid sealing compound	07 58 9 067 732	Sealing between the seal plug and crankcase
2.4	N12, N13, N14, N16, N18 W16	Loctite 121078 liquid sealing compound	83 19 2 223 765	Sealing between cover sleeve and crankcase

3.0 **Cleaning agent.**

	Designation in repair instructions	**Designation, Electronic Parts Catalogue**	**Part number, Electronic Parts Catalogue**	**Application examples**
3.1	N12, N13, N14, N18, N20, N26, N45, N46, N45T, N46T, N43, N51, N52, N52Kp, N52TU, N53, N55, N63, N63S, N63 Hybrid, N63O1, N63O2 N73, N74 B37, B38 B47, B48, B58	Cold cleaner (chlorine free)	83 19 0 026 956	Cleaning assemblies, washing engine
3.2	M47, M47T1 M47T2, M57 M57T1, M57T2 N47 K/U/O/T 0/1 N47C	Universal cleaner	83 19 2 360 981	Clean intake pipe.
3.3	All	Brake cleaner	83 19 2 365 214	Clean.

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4.0 Lubricant for **application**

	Designation in repair instructions	Designation, Electronic Parts Catalogue	Part number, Electronic Parts Catalogue	Application examples
4.1	N12, N13, N18, N20, N26, N42, N46, N46TU, N51, N52, N52KP, N52TU, N55, N62, N62TU, N63O0, N63O1, N63O2, N73 S55, S63T0 B38, B48, B58	Lubricating grease Longtime PD1	83 19 2 160 340	For greasing the splined shaft on actuator drive/gearing of intermediate shaft.
4.2	M47, M47TU, M47T2, M57, M57TU, M57T2,	High-temperature assembly paste	83 23 0 309 003	For greasing the thread on the exhaust turbocharger.
4.3	N12, N13, N14, N16, N18 N20, N26, N40, N42, N45, N45TU N46, N46TU, N43. N51, N52, N52Kp, N52TU, N53, N54, N55. N62, N62TU, N63O0, N63O1, N63O2 N73, N73H, N74. S63T1, S65, S85. B38, B48, B58	High temperature paste	83 19 2 158 851 83 19 2 158 852	For greasing the threads on the oxygen sensors.
4.4	N47, N47O1 N47C1, N47T N47D1 N57 N57D1 N63O0, N63O1, N63O2 S63, S63T0	Copper paste	81 22 9 400 794	For greasing the double hex head bolt on the exhaust turbocharger. For greasing the central bolt on the VANOS gear.
4.5	M47, M47TU, M47T2 M57, M57TU, M57T2 N47, N47O1 N47C1, N47T N47D1 N57 N57D1	High-temperature grease (UrethynE2).	83 23 0 441 070	For greasing the injectors or injector shafts. Solenoid valve and piezo injector.
4.6	N47T0, N47T1 N57T0, N57T1, N57S1 B47T0,	Assembly paste	83 29 9 407 778	For lubricating the O-rings of the pressure pipes. Multistage turbocharging assembly.

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4.7	W20	Assembly paste, grease	No longer greased.	For greasing the torsion splined shaft.
4.8	N63O1, N63O2	Assembly paste, grease	83 23 9 407 778	For greasing the central bolt on the crankshaft.
4.9	W20	Assembly paste, grease	83 23 9 407 778	Grease O-ring on alternator.

5.0 lubricant for **filling**

	Designation in repair instructions	**Designation, Electronic Parts Catalogue**	**Part number, Electronic Parts Catalogue**	**Application examples**
5.1	M47, M57	Exhaust turbocharger additive	83 19 2 362 168	For filling the exhaust turbocharger after the renewal.
5.2	B32, B36, B37, B38, B42, B46, B47, B48, B58	Exhaust turbocharger additive, petrol MSP	83 19 2 457 276	For filling the exhaust turbocharger after the renewal.

6.0 Lubricants to loosen locked **screw connections.**

	Designation in repair instructions	**Designation, Electronic Parts Catalogue**	**Part number, Electronic Parts Catalogue**	**Application examples**
6.1	M47, M47TU, M47TU2, M57, M57TU, M57TU2. N47, N47C, N47D1, N57, N57D1, N57S1 W16, W17, B37, B47, B57	Brunox lubricating grease	83 23 0 418 567	For releasing the glow elements.
6.2	E89 F10, F11.	Brunox lubricating grease	83 23 0 418 567	For releasing and tightening the screw connection of the rubber mounts.

7.0 **Leak detection spray and contact spray**

	Designation in repair instructions	**Designation, Electronic Parts Catalogue**	**Part number, Electronic Parts Catalogue**	**Application examples**
7.1	Petrol: N13, N20, N26, N54, N55 B38, B48, B58	Leak detection spray	83 19 9 407 861	Check charge air path for tightness. Example: leakage on charge air hose or charge air cooler.

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	Diesel fuel: M47, M47TU, M47TU2, M57, M57TU, M57TU2. N47, N47C, N47D1, N57, N57D1, B37, B47			
7.2	S55	Contact spray	81 22 9 400 208	For cleaning and protecting of electrical plug connections.

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