



Industrial Technology

Axles for off-road vehicles

List of lubricants TE-ML 05

Table of contents

	Page
1. Current products	2
2. Products not listed in detail	3
3. Hydraulic fluids	3
4. Greasing points	3
5. Oil change intervals	3
6. Load classes	4
7. Explanation of footnotes and comments	4
8. Lubricant classes and approved trade products	5

The list of lubricants TE-ML 05, **edition 01.07.2018** replaces all previous editions. The current list can be requested from any ZF after-sales service center or accessed on the Internet under www.zf.com/lubricants.

ZF Friedrichshafen AG
D-88038 Friedrichshafen
www.zf.com/contact

1. Current products

Product groups	Series	Lubricant classes for service fills ⁽¹⁾
Compactor	MT-C 3035, MT-C 3065, MT-C 3075	05C
Motor grader	MT-G 3070, MT-G 3075, MT-G 3080, MT-G 3085, MT-G 3090, WH-L3065, WH-L3075	ZF-Powerfluid Plus 05F / 05G / 05H
Dumper	Axle/Wheel head: MT-D 3105	ZF-Powerfluid Plus 05C / 05F / 05G / 05H
	Brake: MT-D 3105, WH-D 3105, MT-D 3085, MT-D 3095	ZF-Powerfluid Plus 05F / 05G / 05H
	Axle inserts	ZF-Powerfluid Plus 05C / 05F / 05G / 05H
Wheel loader	MT-L series, paper brake lining: MT-L 3065, MT-L 3075, MT-L 3085, MT-L 3095, MT-L 3105 AP-410, AP-412, AP-L 3085, AP-L 3095	ZF-Powerfluid Plus 05C / 05F / 05G / 05H
	MT-L series, sintered brake lining: MT-L 3065, MT-L 3075, MT-L 3085, MT-L 3095, MT-L 3105, MT-L 3115, MT-L 3125, MT-L 3135	ZF-Powerfluid Plus 05F / 05G / 05H
Backhoe loader	Rear axle: MT-B 3065, MT-B 3070, MT-2075, MT-2085, MS-B 3070	ZF-Powerfluid Plus 05F / 05G / 05H
	Front axle: MS-B 3025, MS-2045, MS-B 3055	ZF-Powerfluid Plus 05C / 05F / 05G / 05H
Telescopic handler	MS-T 3045, MS-T 3055, MS-T 3060	ZF-Powerfluid Plus 05F / 05G / 05H
Compact loader	AV230	05A / 05C
	MT-L 3015, MS-L 3015, MT-L 3020, MT-L 3045, MT-L 3055	ZF-Powerfluid Plus 05C / 05F / 05G / 05H
Mobile excavator	MS-E 3050, MT-E 3050, MS-E 3060, MT-E 3060, MS-E 3070, MT-E 3070	ZF-Powerfluid Plus 05C / 05F / 05G / 05H

2. Products not listed in detail

Product groups	Lubricant classes for service fills ⁽¹⁾	
	without	with
	wet multi-disc brakes and / or multi-disc limited-slip differentials	
Axles Differentials Axle inserts Wheel hubs	ZF-Powerfluid Plus 05A / 05C 05F / 05G / 05H	ZF-Powerfluid Plus 05C / 05F / 05G / 05H
Axles, differentials and axle inserts with hypoid drive	05A / 05C	05C

Note: APL 9000 see TE-ML 12

3. Hydraulic fluids

Product group	Lubricant classes for service fills ⁽¹⁾	Use at outside temperatures
Brake hydraulics, hydraulic differential lock (DHL) and steering	05L	- 40°C
	lubricants in accordance with JDM J20D	- 40°C
	05F (only lubricants in accordance with JDM J20C), 05G	- 30°C
	05K	- 30°C
	05M (ISO VG 32)	- 40°C
	05M (ISO VG 46)	- 10°C
	05M (ISO VG 68)	- 5°C

4. Greasing points

Product groups	Lubricating grease
Swivel bearing axles, motor grader: MT-G 3070, MT-G 3075, MT-G 3080, MT-G 3085, MT-G 3090	ZF Powergrease (ZF P/N 0671 090 354) Total Aerogrease N 31089 Shell Aeroshell Grease 22 Lubricating interval acc. to corresponding lubricating and maintenance specifications
Other	Lithium saponified multipurpose grease of NLGI class 2 which is mixable with mineral oil (grease code KP2K-30 in acc. with DIN 51825 or ISO-L-XCCHB2 in accordance with ISO 6743-9). Lubricating interval acc. to corresponding lubricating and maintenance specifications.

5. Oil change intervals

Lubricant class	05A, 05C	ZF Powerfluid Plus 05F, 05G, 05H
Load class	Oil change interval	
1	1500 h	2000 h
2	1000 h	1500 h
3	500 h	1000 h

Note: The original ZF filling ex works is to remain in the axle for at least the first 500 operating hours; it is not recommended to change the oil earlier.

6. Load classes

Load class	Examples of applications
1	<ul style="list-style-type: none"> - Dumper - Mobile excavator with low driving-mode share (<25%) and equipment in material handling - Wheel loader with low share of service brake use - Other axles without wet brakes - Backhoe loader under normal operating conditions
2	<ul style="list-style-type: none"> - Mobile excavator with increased driving-mode share (>25%) and equipment in timber handling - Wheel loader, grader, telescopic handler - Backhoe loader under extreme operating conditions - Compactors
3	<ul style="list-style-type: none"> - Wheel loader operated under extreme braking conditions - Generally all vehicles operated in outdoor temperatures > 40°C

7. Explanation of footnotes and comments

Footnotes

- (1) **The lubricant classes listed are compulsory for service oil changes according to the oil-change intervals mentioned under Section 5. Additional requirements apply to ZF factory fills.**

Comments

Additives of any kind added **later** to the oil change the oil in a manner that is unpredictable, and they are therefore not permitted. No liability of any kind will be accepted by ZF for any damage resulting from the use of such additives.

8. Lubricant classes and approved trade products

Lubricant class 05A

Gear oil

Viscosity grades: SAE 75W-90 / 75W-110 / 75W-140 / 80W-90 / 80W-110 / 80W-140 / 85W-90 / 85W-110 / 85W-140 / 90

Manufacturer (05A)

ADDINOL LUBE OIL GMBH, LEUNA/DE
 ADDINOL LUBE OIL GMBH, LEUNA/DE
 ARAL AG, BOCHUM/DE
 ARAL AG, BOCHUM/DE
 ARAL AG, BOCHUM/DE
 ARAL AG, BOCHUM/DE
 ARAL AG, BOCHUM/DE
 ARAL AG, BOCHUM/DE
 BAHRAIN PETROLEUM COMPANY, AWALI/BH
 BAHRAIN PETROLEUM COMPANY, AWALI/BH
 BAHRAIN PETROLEUM COMPANY, AWALI/BH
 BASF SE, LUDWIGSHAFEN/DE
 BASF SE, LUDWIGSHAFEN/DE
 BASF SE, LUDWIGSHAFEN/DE
 BASF SE, LUDWIGSHAFEN/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BP PLC., LONDON/GB
 BP PLC., LONDON/GB
 BP PLC., LONDON/GB
 BP PLC., LONDON/GB
 BP PLC., LONDON/GB
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
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 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CLASS KGAA MBH, HARSEWINKEL/DE
 CONDAT LUBRIFIANTS, CHASSE SUR RHONE/FR
 CYCLON HELLAS SA, ATHENS/GR
 DAF TRUCKS NV, EINDHOVEN/NL
 DE OLIEBRON BV, ZWIJNDRECHT/NL
 DE OLIEBRON BV, ZWIJNDRECHT/NL
 EKO ABE, ATHENS/GR
 ENI S.P.A., ROME/IT
 ENI S.P.A., ROME/IT
 ENI S.P.A., ROME/IT
 ENI S.P.A., ROME/IT
 ENI S.P.A., ROME/IT
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FABRIKA MAZIVA FAM AD, KRUSÉVAC/RS
 FABRIKA MAZIVA FAM AD, KRUSÉVAC/RS
 FABRIKA MAZIVA FAM AD, KRUSÉVAC/RS
 FINKE MINERALÖLWERK GMBH, 27374 VISSSELHÖVEDE/DE
 FINKE MINERALÖLWERK GMBH, 27374 VISSSELHÖVEDE/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE

Trade name (05A)

ADDINOL GETRIEBEÖL GX 80W-90 ML
 ADDINOL GETRIEBEÖL GH 75 W 90 SL
 ARAL GETRIEBEÖL BS 75W-90
 ARAL GETRIEBEÖL SNA-C 75W-90
 ARAL GETRIEBEÖL SNA-D 80W-90
 ARAL GETRIEBEÖL SNA-E 75W-90
 ARAL GETRIEBEÖL EP PLUS 80W-90
 ARAL GETRIEBEÖL HYP 85W-140
 SPAREX EP 90 GL-5
 SPAREX EP 80W-90 GL-5
 SPAREX EP 85W-140 GL-5
 EMGARD UAF 4209
 EMGARD RW-A, SAE 75W-90
 EMGARD HP 75W-90
 EMGARD UAF 7105
 TECTROL MULTIGEAR PLUS 8090
 BP ENERGEAR HT 80W-90
 BP ENERGEAR HYPO XL 80W-90
 BP ENERGEAR SHX-M 75W-90
 BP ENERGEAR HYPO 85W-140
 BP ENERGEAR HYPO 80W-90
 UNISYNT ZX SAE 75W90
 GEAR ZX TP SAE 80W/90
 GEAR ZX TP SAE 80W/140
 GEAR OIL HYPOID SAE80W/90
 PENTA TL SAE 75W/90
 CASTROL SYNTRAX UNIVERSAL 80W-90
 CASTROL AXLE LONG DRAIN 80W-90
 CASTROL SYNTRAX LONG LIFE 75W-90
 CASTROL AXLE EPX 85W-140
 CASTROL AXLE EPX 80W-90
 SYNTRAX UNIVERSAL PLUS 75W-90
 CASTROL AXLE EPX 80W-90
 CASTROL TRANSMAX AXLE LONG LIFE 75W-90
 CASTROL TRANSMAX UNIVERSAL LL 80W-90
 CASTROL TRANSMAX UNIVERSAL LL 75W-90
 CASTROL TRANSMAX AXLE EPX 85W-140
 CASTROL TRANSMAX AXLE EPX 80W-90
 CEPSA TRANSMISIONES EP 80W-90
 CEPSA TRANSMISIONES EP 85W-140
 CEPSA TRANSMISIONES EP FE+LD 75W-90
 MAN SUPER AXLE 3343 75W-90
 MAN SUPER AXLE 342-M2
 MULTIGEAR 80W-90
 MULTIGEAR S 75W-90
 MULTIGEAR PREMIUM EP SAE 85W-140
 MULTIGEAR S 75W-140
 MULTIGEAR EP-5 SAE 80W-90
 DELO GEAR EP-5 SAE 85W-140
 DELO GEAR EP-5 SAE 80W-90
 DELO GEAR TDL 80W-90
 DELO SYN-GEAR XS 75W-140
 DELO SYN-TDL 75W-90
 CLAAS AGRISHIFT MT 80W-90
 GEAR TXS 75W90
 GEAR EP GL-5 80W-90
 DAF SUPER 80W-90
 TOR UNI GEAR LD 75W90
 TOR UNI GEAR 75W110 LD
 EKO GEAROL-5 80W-90
 ENI ROTRA MP 80W-90
 ENI ROTRA MP 85W-140
 ENI ROTRA LSX 75W-90
 ENI ROTRA MP 75W-90
 MOBILUBE 1 SHC 75W-90
 MOBILUBE HD-A PLUS 80W-90
 MOBIL DELVAC SYNTHETIC GEAR OIL 75W-90
 MOBIL DELVAC SYNTHETIC GEAR OIL 80W-140
 MOBILUBE S 80W-90
 MOBIL DELVAC 1 GEAR OIL 75W-90
 MOBIL DELVAC 1 GEAR OIL 80W-140
 MULTIHIPO 75W-90 SINT
 MULTIHIPO 80W-90 F PLUS
 MULTIHIPO 80W-140 F PLUS
 AVIATICON FINKOGEAR PREMIUM 75W-90
 AVIATICON FINKOGEAR SUPER 80W-90
 FUCHS TITAN CYTRAC HSY SAE 75W-90
 FUCHS TITAN GEAR HYP LD SAE 80W-90
 FUCHS TITAN SUPERGEAR SAE 80W-90
 FUCHS TITAN SUPERGEAR SAE 85W-140

ZF approval number

ZF000672
 ZF002260
 ZF000133
 ZF000134
 ZF000135
 ZF000142
 ZF000460
 ZF000930
 ZF002316
 ZF002317
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 ZF000763
 ZF000769
 ZF000776
 ZF001681
 ZF001682
 ZF000653
 ZF001456
 ZF001749
 ZF002249
 ZF002299
 ZF000642
 ZF000645
 ZF000647
 ZF000650

Lubricant class 05C

Gear oil with limited-slip-additives

Viscosity grades: SAE 75W-90 / 75W-110 / 75W-140 / 80W-90 / 80W-110 / 80W-140 / 85W-90 / 85W-110 / 85W-140 / 90

Manufacturer (05C)

ADDINOL LUBE OIL GMBH, LEUNA/DE
 ADDINOL LUBE OIL GMBH, LEUNA/DE
 ARAL AG, BOCHUM/DE
 ARAL AG, BOCHUM/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CLASS KGAA MBH, HARSEWINKEL/DE
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FINKE MINERALÖLWERK GMBH, 27374 VISSSELHÖVEDE/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU
 GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE
 GRUPA LOTOS S.A., GDANSK/PL
 GRUPA LOTOS S.A., GDANSK/PL
 GS CALTEX CORPORATION, SEOUL/KR
 GULF OIL INTERNATIONAL, MUMBAI/IN
 HINDUSTAN PETROLEUM CORPORATION LTD., MUMBAI/IN
 INA MAZIVA LTD., ZAGREB/HR
 INDIAN OIL CORPORATION LTD, MUMBAI/IN
 INDIAN OIL CORPORATION LTD, MUMBAI/IN
 JOHN DEERE, MOLINE, ILLINOIS/US
 JOHN DEERE, MOLINE, ILLINOIS/US
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE
 LIQUI MOLY GMBH, ULM/DE
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE
 MOL-LUB KFT, ALMASFUZITO/HU
 MOL-LUB KFT, ALMASFUZITO/HU
 MORRIS LUBRICANTS, SHREWSBURY/GB
 NORTHLAND PRODUCTS COMPANY, WATERLOO, IOWA/US
 NORTHLAND PRODUCTS COMPANY, WATERLOO, IOWA/US
 NOVA STILMOIL SPA, MODENA/IT
 OILFINO MINERALÖL GMBH, PRISDORF/DE
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 ORLEN OIL SP. Z O.O., KRAKOW/PL
 ORLEN OIL SP. Z O.O., KRAKOW/PL
 ORLEN OIL SP. Z O.O., KRAKOW/PL
 OY TEBOIL AB, HELSINKI/FI
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT
 PANOLIN AG, MADETSWIL/CH
 PETROGAL S.A., LISBOA/PT
 PETROL OFISI A.S., ISTANBUL/TR
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PHI OIL GMBH, ST. GEORGEN/AT
 PTT PUBLIC COMPANY LIMITED, BANGKOK/TH
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 RN-LUBRICANTS, LLC, MOSCOW/RU
 RN-LUBRICANTS, LLC, MOSCOW/RU
 SASOL OIL, RANDBURG/ZA
 SAVITA OIL TECHNOLOGIES LIMITED, MUMBAI/IN
 SAVITA OIL TECHNOLOGIES LIMITED, MUMBAI/IN
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SK LUBRICANTS, SEOUL/KR
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR

Trade name (05C)

ADDINOL GETRIEBEÖL GH 85W-90 LS
 ADDINOL GETRIEBEÖL GH 80W-90 LS
 ARAL GETRIEBEÖL BS-LSX 75W-140
 ARAL GETRIEBEÖL HYP LS 85W-90
 PENNASOL LIMITED SLIP HYPOID GEAR OIL LS SAE 90
 TECTROL MULTIGEAR LS 90
 BELGEAR LS 85W90
 MOTOREX UNIVERSAL LS SAE 90
 CASTROL SYNTRAX LIMITED SLIP 75W-140
 CASTROL AXLE Z LIMITED SLIP 90
 CASTROL AXLE Z LIMITED SLIP 85W-90
 CASTROL TRANSMAX LIMITED SLIP LL 75W-140
 CASTROL TRANSMAX LIMITED SLIP Z 85W-90
 CEPSA AURIGA LS PLUS 80W-90
 GEAR OIL ZF SAE 80W-90
 GEARTEX LS 80W-90
 GEARTEX LS 85W-90
 GEARTEX LS SAE 85W-140
 CLAAS AGRISHIFT BLS 90
 MOBILUBE LS 85W-90
 GEARLUBE VS 500
 AVIATICON HYPOID LS 90
 FUCHS TITAN GEAR LS SAE 90
 G-TRUCK LS 80W-90
 G-TRUCK LS 85W-140
 G-TRUCK LS 85W-90
 OEST GETRIEBEÖL HYPOID LS 90
 LOTOS TITANIS LS GL-5 80W-90
 LOTOS TITANIS LS GL-5 SAE 85W-140
 DOOSAN LS GEAR OIL 80W90
 GULF GEAR LS 90
 HP GEAR OIL ZFL 80W 90 LS
 INA HIPENOL GTL LS 90
 SERVO GEAR SUPER LS 90
 SERVO GEAR SUPER LS 80W-90
 JOHN DEERE GL-5 GEAR LUBRICANT W/LS ADD 80W-90
 JOHN DEERE GL-5 GEAR LUBRICANT W/LS ADD 85W-140
 Q8 T 45 LS SAE 90
 LIEBHERR GEAR BASIC 90 LS
 LIQUI MOLY HYPOID-GETRIEBEÖL PLUS GL 5 LS 85W-90
 MEGOL HYPOID-GETRIEBEÖL AXLE LS SAE 85W-90
 MOL HYKOMOL LS 85W140
 MOL HYKOMOL LS 85W90
 TERRAIN LS 80W-90
 POSI-GRIP JDZF 80W90
 POSI-GRIP JDZF 85W140
 GEARING WONDER LS SAE 85W90
 OILFINO VARIUS G 400LS 85W-90
 LUKOIL TRANSMISSION LS 85W-90
 LUKOIL TRANSMISSION LS 80W-90
 PLATINUM GEAR LS 80W-90
 PLATINUM AGRO LS 80W-90
 PLATINUM GEAR LS 85W-140
 TEBOIL HYPOID LS 80W-90
 UNIVERSAL GEAR EP LS SAE 85W90
 PANOLIN SUPER DUTY LS 90
 GALP TRANSOIL HP LS 90
 MAXIGEAR EP-X 85W-90LS
 AMBRA AXF 80W-90 (SAE 80W-90)
 AKCELA AXLEPOWER (SAE 80W-90)
 AKROS AXLEGEAR 80W-90 (SAE 80W-90)
 TUTELA TRANSMISSION W90/LS (SAE 80W-90)
 ARBOR TTF (SAE 80W-90)
 SUPERGEAR BRONZE 85W90 LS
 PTT LIMITED SLIP (SAE 80W-90)
 RAVENOL SPERRDIFF.-GETR.-OEL LS 90
 REPSOL CARTAGO EP AUTOBLOCANTE SAE 80W90
 TNK TRANS GIPOID LS 80W-90
 TNK TRANS GIPOID LS 85W-90
 SASOL DIFFERENTIAL OIL LIMITED SLIP 80W-90
 SAVSOL AUTOGEAR 85W140 LIMITED SLIP GL5
 SAVSOL AUTOGEAR 90 LIMITED SLIP GL-5
 SHELL SPIRAX S3 ALS 80W-90
 SINOPEC GREATWALL ZLS GL-5 85W/90
 SK ZIC G-5 LSD 80W-90
 SRS WIOLIN RSH
 TOTAL DYNATRANS DA 80W-90
 TOTAL DYNATRANS DA 85W-140
 TOTAL DYNATRANS LS 80W-90
 ELF TRACTELF BLS 80W-90
 GULF LS REAR AXLE 80W-90
 TOTAL DYNATRANS DA 80W-90

ZF approval number

ZF000629
 ZF000703
 ZF000140
 ZF000465
 ZF000844
 ZF001167
 ZF002257
 ZF000727
 ZF000269
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 ZF002178
 ZF001050
 ZF000787
 ZF000809
 ZF000810
 ZF001686
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 ZF000031
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 ZF002301
 ZF000651
 ZF000558
 ZF000561
 ZF000937
 ZF001479
 ZF000924
 ZF001135
 ZF001341
 ZF000891
 ZF001578
 ZF000424
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 ZF002109
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 ZF003340
 ZF000442
 ZF001255
 ZF001512
 ZF001545
 ZF001546
 ZF001548
 ZF002309

Manufacturer (05C)

UNIL OPAL, SAUMUR/FR
VALVOLINE CUMMINS PVT LIMITED, GURGAON/IN
VALVOLINE EUROPE, DORDRECHT/NL
YACCO SAS, ST PIERRE LES ELBEUF/FR

Trade name (05C)

GEAR AB-EP 85W90
GEAR DURA 80W90 LS
VALVOLINE HEAVY DUTY AXLE OIL PRO 80W-90 LS
BVX LS 200 80W-90

ZF approval number

ZF000526
ZF001465
ZF001996
ZF001614

Lubricant class 05F

Universal axle and transmission oil

Manufacturer (05F)

ADDINOL LUBE OIL GMBH, LEUNA/DE
 ADDINOL LUBE OIL GMBH, LEUNA/DE
 ARAL AG, BOCHUM/DE
 AVIA AG, MÜNCHEN/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BP PLC., LONDON/GB
 BP PLC., LONDON/GB
 BP PLC., LONDON/GB
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CATERPILLAR, INC., MOSSVILLE/US
 CEPESA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CLASS KGAA MBH, HARSEWINKEL/DE
 DEUTSCHE ÖLWERKE LUBMIN, LUBMIN/DE
 EUROL B.V., NJIVERDAL/NL
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU
 GB LUBRICANTS, GATESHEAD/GB
 GS CALTEX CORPORATION, SEOUL/KR
 GULF OIL INTERNATIONAL, MUMBAI/IN
 GULF OIL INTERNATIONAL, MUMBAI/IN
 HYUNDAI OILBANK CO., LTD., SEOUL/KR
 IGOL FRANCE, AMIENS/FR
 INA MAZIVA LTD., ZAGREB/HR
 INA MAZIVA LTD., ZAGREB/HR
 INA MAZIVA LTD., ZAGREB/HR
 JCB INDIA, BALLABGARH/IN
 JOHN DEERE, MOLINE, ILLINOIS/US
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE
 LIQUI MOLY GMBH, ULM/DE
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE
 OBNINSKORGSIINTEZ, OBNINSK/RU
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 OPET FUCHS MADENI YAG. SAN. VE TIC. A.S., IZMIR/TR
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT
 PANOLIN AG, MADETSWIL/CH
 PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR
 PETROGAL S.A., LISBOA/PT
 PETROL OFISI A.S., ISTANBUL/TR
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
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 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PHI OIL GMBH, ST. GEORGEN/AT
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE
 ROLF LUBRICANTS GMBH, LEVERKUSEN/DE
 SAME DEUTZ FAHR, TREVIGLIO/IT
 SAME DEUTZ FAHR, TREVIGLIO/IT
 SASOL OIL, RANDBURG/ZA
 SASOL OIL, RANDBURG/ZA
 SAVITA OIL TECHNOLOGIES LIMITED, MUMBAI/IN
 SEANON PETROCHEMICAL CO.,LTD., LIUZHOU, GUANGXI/CN

Trade name (05F)

ADDINOL UTTO SAE 10W-30
 ADDINOL UTTO EXTRA (SAE 20W-40)
 ARAL FLUID HGS
 AVIA HYDROFLUID TD
 TECTROL UTTO-ZF
 TECTROL UTTO-HF
 BP VANELLUS AGRI SUPER TRANSMISSION 80W
 BP TRACTRAN TF-10
 BP VANELLUS AGRI SUPER TRANSMISSION 80W
 FARMER POLY 304
 MOTOREX UTTO CF
 CASTROL AGRI TRANS PLUS 80W
 CASTROL AGRI TRANS PLUS 10W-30
 CASTROL TRANSMAX AGRI TRANS PLUS 80W
 CAT MULTIPURPOSE TRACTOR OIL
 CEPESA AURIGA TE 55 10W-30
 CHEVRON 1000 THF
 TEXTRAN TDH PREMIUM
 CLAAS AGRISHIFT GA 12
 AVENO UTTO
 EUROL HYKROL JD 68
 MOBILFLUID 424
 MOBILFLUID 426
 FUCHS TITAN UTTO ZF (SAE 20W-40)
 FUCHS TITAN AGRIFARM UTTO MP
 FUCHS TITAN AGRIFARM UTTO MP
 G-SPECIAL UTTO 10W-30
 G-SPECIAL UTTO PREMIUM 10W-30
 GB UNITRANS(R) ZF
 DOOSAN AXLE OIL STANDARD
 GULF MPTF 10W-30
 GULF MPTF 10W-30
 XTEER THF 75W-80
 TICMA FLUID MU XTREM
 INA TRANSHIDROL JD 50
 INA TRANSHIDROL ZF 20W-40
 INA TRANSHIDROL JD 50
 JCB REAR AXLE OIL
 JOHN DEERE HY-GARD
 Q8 T 2000
 JCB HP GEAR OIL PLUS
 Q8 T 2200
 JCB HP GEAR OIL PLUS
 LIEBHERR GEAR MF 80W
 LIQUI MOLY SPECIAL UTTO
 MEGOL TRAKTORENOEL UTTO PREMIUM SAE 10W-30
 RW DRIVE FORCE UTTO SAE 10W-30
 LUKOIL VERSO PLUS
 LUKOIL VERSO LVX
 OPET FULLGEAR FD 80W-140
 UTTO FLUID 4 D SAE 10W/30
 PANOLIN JD 303
 LUBRAX UNITRACTOR SAE 10W-30
 GALP TRALUB 807 S
 MAXITRAK TMS OIL 500
 AMBRA MULTI G (SAE 10W-30)
 AMBRA MULTI G (SAE 10W-30)
 AMBRA MULTI G (SAE 10W-30)
 AMBRA TRX 20W-40 (SAE 20W-40)
 AMBRA TRX 80W-140 (SAE 80W-140)
 ARBOR TRW 140 SPECIAL (SAE 80W-140)
 AKCELA TRANSAXLE FLUID 20W-40 (SAE 20W-40)
 AKCELA TRANSAXLE FLUID 80W-140 (SAE 80W-140)
 AKCELA TRANSAXLE FLUID 80W-140 (SAE 80W-140)
 AKCELA TRANSAXLE FLUID 20W-40
 AMBRA MULTI G (SAE 10W-30)
 ARBOR MTF (SAE 10W-30)
 AKCELA NEXPLORE (SAE 10W-30)
 AKCELA NEXPLORE (SAE 10W-30)
 AMBRA MULTI G (SAE 10W-30)
 AKCELA NEXPLORE (SAE 10W-30)
 ARBOR MTF (SAE 10W-30)
 AMBRA TRX 80W-140 (SAE 80W-140)
 AKCELA TRANSAXLE FLUID 80W-140 (SAE 80W-140)
 AMBRA TRX 20W-40 (SAE 20W-40)
 AKCELA TRANSAXLE FLUID 20W-40 (SAE 20W-40)
 GEAR OIL UTTO SILVER 10W-30
 RAVENOL GETRIEBEOEL UTTO
 ROLF UTTO SAE 10W-30
 SDF UTTO
 DF UTTO
 UNIVERSAL TRANSMISSION OIL 68
 SASOL UNIVERSAL TRANSMISSION OIL RS 68
 SAVSOL 315 HAT
 SEANON DEDICATED TRANSMISSION OIL 10W-30

ZF approval number

ZF000509
 ZF001845
 ZF000457
 ZF001811
 ZF001161
 ZF002193
 ZF000210
 ZF000897
 ZF002161
 ZF000590
 ZF001158
 ZF000759
 ZF000950
 ZF002188
 ZF000834
 ZF001200
 ZF000100
 ZF000820
 ZF001289
 ZF001687
 ZF001971
 ZF000040
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 ZF000433
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 ZF001502
 ZF001223
 ZF000177
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 ZF002303
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 ZF002152
 ZF000958
 ZF001718
 ZF003375
 ZF002229
 ZF002230
 ZF000707
 ZF001828
 ZF001131
 ZF001959

Manufacturer (05F)

SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 VALVOLINE CUMMINS PVT LIMITED, GURGAON/IN
 VALVOLINE EUROPE, DORDRECHT/NL

Trade name (05F)

SHELL SPIRAX S4 TXM
 SHELL SPIRAX S4 TXM
 SHELL SPIRAX S4 TXM
 SHELL SPIRAX S6 TXME
 SHELL SPIRAX S4 TXM
 SHELL SPIRAX S4 TXM
 SINOPEC GREATWALL UTTO
 SRS HYDROFLUID N
 TOTAL DYNATRANS MPV
 ELF TRACTELF BF 16
 TOTAL DYNATRANS LS 20W-40
 TOTAL DYNATRANS MPWB
 TOTAL DYNATRANS MPX
 VALVOLINE UTF PREMIUM
 UNITRAC 80W

ZF approval number

ZF000357
 ZF000358
 ZF000359
 ZF001295
 ZF001613
 ZF003325
 ZF000105
 ZF000827
 ZF000540
 ZF001317
 ZF001346
 ZF001539
 ZF002222
 ZF002218
 ZF002041

Lubricant class 05G

Premium universal axle and transmission oil

Manufacturer (05G)

SINOPEC LUBRICANT CO., LTD., BEIJING/CN
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (05G)

SINOPEC GREATWALL HD DRIVE AXLE OIL
ZF-POWERFLUID PLUS
ZF-POWERFLUID C-PLUS

ZF approval number

ZF002162
ZF001021
ZF002087

Lubricant class 05H

Biodegradable lubricants

Viscosity grade: SAE 75W-80

Instructions on the use of biodegradable lubricants:

The oil manufacturer's change-over directives included in the product description are to be observed when change-over to biodegradable lubricants is effected.

Manufacturer (05H)

PANOLIN AG, MADETSWIL/CH

Trade name (05H)

PANOLIN BIOFLUID LS

ZF approval number

ZF001206

Lubricant class 05K

Engine oil

Viscosity grades: SAE 10W, 10W-30, 10W-40

in accordance with Specification

API CD/CE/CF-4/CF/CG-4/CH-4/CI-4/CI-4 Plus/CJ-4

or SF/SG/SH/SJ/SL/SM

or ACEA, categories A, B, E

Note:

All trade products which satisfy the above specifications may be used. There will be no product listing.

Lubricant class 05L

Automatic Transmission Fluid (ATF) based on mineral base fluids according to former Dexron IID, IIIF, IIIG or IIIH specification by General Motors.

Note:

All trade products which satisfy the above specifications may be used. There will be no product listing.

Lubricant class 05M

Mineral oil-based hydraulic oil HLP in accordance with DIN 51524-2 or mineral oil-based hydraulic oil HVLP in accordance with DIN 51524-3.

Viscosity grades: ISO VG 32 / 46 / 68

Note:

All trade products which satisfy the above specifications may be used. There will be no product listing.