



Industrial Technology

Axles for construction machinery

List of lubricants TE-ML 05

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The list of lubricants TE-ML 05, **edition 01.07.2026** replaces all previous editions. The current list can be requested from any ZF after-sales service center or accessed on the Internet under www.aftermarket.zf.com/lubricants.

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

Disclaimer: The lubricants and providers listed herein are presented solely for the purpose of documenting lubricants that were tested for compatibility with our products. This listing does not constitute an endorsement, recommendation, or preference for any of the mentioned lubricants, manufacturers, or providers. The inclusion of any lubricant in this list does not imply that it is superior to other available options, nor does it indicate that other lubricants or providers are unsuitable for use with our products. There may be additional lubricants, manufacturers, or providers — whether known or unknown to us — that are fully compatible or otherwise appropriate. It remains the sole responsibility of each customer to verify and comply with all applicable sanction laws and regulations prior to purchasing any of the mentioned lubricants.

1. Current products








Product groups	Series	Lubricant classes for service fills ⁽¹⁾
Compactor	MT-C 3035, MT-C 3065, MT-C 3075	ZF PowerFluid Gear LS 05C / 05N
Motor grader	MT-G 3070, MT-G 3075, MT-G 3080, MT-G 3085, MT-G 3090, WH-L3065, WH-L3075	ZF PowerFluid Plus 05E / 05F / 05G
Dumper	Axle/Wheel head: MT-D 3105	ZF PowerFluid Gear LS ZF PowerFluid Plus 05C / 05E / 05F / 05G / 05N
	Brake: MT-D 3105, WH-D 3105	ZF PowerFluid Plus 05E / 05F / 05G
	Axle inserts	ZF PowerFluid Gear LS ZF PowerFluid Plus 05C / 05E / 05F / 05G / 05N
	MT-D 3085 II, MT-D 3095 II, MT-D 3110	ZF PowerFluid Plus 05E / 05F / 05G
Wheel loader	MT-L 3065, MT-L 3075, MT-L 3085, MT-L 3095, MT-L 3105, MT-L 3110, MT-L 3115, MT-L 3125, MT-L 3135 AP-410, AP-412, AP-L 3085, AP-L 3095	ZF PowerFluid Gear LS ZF PowerFluid Plus 05C / 05E / 05F / 05G / 05N
Backhoe loader	Rear axle: MT-B 3065, MT-B 3070, MT-2075, MT-2085	ZF PowerFluid Plus 05E / 05F / 05G
	Front axle: MS-B 3025, MS-2045, MS-B 3035	ZF PowerFluid Gear LS ZF PowerFluid Plus 05C / 05E / 05F / 05G / 05N
Telescopic handler	MS-T 3045, MS-T 3055, MS-T 3060	ZF PowerFluid Plus 05E / 05F / 05G
Compact loader	AV230	ZF PowerFluid Gear LS 05A / 05C / 05N
	MT-L 3010, MT-L 3015, MT-L 3020, MT-L 3025, MT-L 3035, MT-L 3045, MT-L 3055 MS-L 3015	ZF PowerFluid Gear LS ZF PowerFluid Plus 05C / 05E / 05F / 05G / 05N
	MT-L 3010 eCD, MT-L 3015 eCD, MT-L 3020 eCD, MT-L 3025 eCD	ZF PowerFluid Plus 05E / 05F / 05G
Compact loader with electric drive		
Mobile excavator	MS-E 3050, MT-E 3050, MS-E 3060, MT-E 3060, MS-E 3070, MT-E 3070	ZF PowerFluid Gear LS ZF PowerFluid Plus 05C / 05E / 05F / 05G / 05N The TE-ML 07 must be observed for directly fitted HL transmissions.

2. Products not listed in detail

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

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 
	05E / 05F (only lubricants in accordance with JDM J20C), 05G	- 30°C 
	05K	- 30°C 
	05M (ISO VG 32)	- 40°C  + 20°C
	05M (ISO VG 46)	- 10°C 
	05M (ISO VG 68)	- 5°C 

4. Greasing points

Product groups	Lubricant classes for service fills ⁽¹⁾
Swivel bearing axles, motor grader: MT-G 3070, MT-G 3075, MT-G 3080, MT-G 3085, MT-G 3090	05P Lubricating interval acc. to corresponding lubricating and maintenance specifications
Other	05Q Lubricating interval acc. to corresponding lubricating and maintenance specifications.

5. Load classes

Load class	Examples of applications
1	- Mobile excavator with low driving-mode share (<25%) and equipment in material handling - Wheel loader and Dumper with low share of service brake use - Other axles without wet brakes
2	- Mobile excavator with increased driving-mode share (>25%) and equipment in timber handling - Wheel loader, grader, telescopic handler, Dumper - Backhoe loader under normal operating conditions - Compactors
3	- Wheel loader and Dumper operated under extreme braking conditions - Backhoe loader under extreme operating conditions - Generally all vehicles operated in outdoor temperatures > 40°C

6. Oil change intervals

6.1 Initial oil change intervals

Lubricant class	ZF filling ex works
Load class	Oil change intervals
1	2000 h ⁽²⁾
2	1500 h ⁽²⁾
3	1000 h ⁽²⁾

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

6.2 Subsequent oil change intervals

Lubricant class	05A	ZF PowerFluid Gear LS 05C / 05F / 05N	ZF PowerFluid Plus 05E / 05G
Load class	Oil change intervals		
1	1500 h	2000 h	4000 h
2	1000 h	1500 h	3000 h
3	500 h	1000 h	2000 h

7. Explanation of footnotes and comments

Footnotes

- (1) Refer to the following pages for approved commercial products.
For information on oil change intervals, refer to Section 6.
- (2) The original ZF factory fill is to remain in the axle for at least the first 500 operating hours; it is not recommended to change the oil earlier.

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.

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

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ZF approval number

FUCHS PETROLUB SE, MANNHEIM/DE
FUCHS PETROLUB SE, MANNHEIM/DE
FUCHS PETROLUB SE, MANNHEIM/DE
FUCHS PETROLUB SE, MANNHEIM/DE
GS CALTEX CORPORATION, SEOUL/KR
GULF OIL INTERNATIONAL, MUMBAI/IN
GULF OIL INTERNATIONAL, MUMBAI/IN
GULF OIL INTERNATIONAL, MUMBAI/IN
HD HYUNDAI OILBANK, LTD., GYEONGGI-DO/KR
HD HYUNDAI OILBANK, LTD., GYEONGGI-DO/KR
HUILES BERLIET S.A., SAINT-PRIEST/FR
HUILES BERLIET S.A., SAINT-PRIEST/FR
IGOL FRANCE, AMIENS/FR
INA MAZIVA LTD., ZAGREB HR
INA MAZIVA LTD., ZAGREB HR
INGRAX INDUSTRIA E COMERCIO DE GRAXA S/A, DUQUE DE CAXIAS/BR
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BEL
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BEL
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BEL
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BEL
LAEMMLE CHEMICALS AG, MADETSWIL/CH
LAEMMLE CHEMICALS AG, MADETSWIL/CH
LAEMMLE CHEMICALS AG, MADETSWIL/CH
LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE
LIQUI MOLY GMBH, ULM/DE
LIQUI MOLY GMBH, ULM/DE
LIQUI MOLY PRODUKTIONS GMBH & CO. KG, SAARLOUIS/DE
LIQUI MOLY PRODUKTIONS GMBH & CO. KG, SAARLOUIS/DE
LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT
LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT
LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT
MOEVE CLIENT SOLUTIONS, S.A.U., MADRID/ES
MOEVE CLIENT SOLUTIONS, S.A.U., MADRID/ES
MOEVE CLIENT SOLUTIONS, S.A.U., MADRID/ES
MOEVE CLIENT SOLUTIONS, S.A.U., MADRID/ES
MOL-LUB KFT, ALMASFUZITO/HU
MOL-LUB KFT, ALMASFUZITO/HU
MOTOREX AG, LANGENTHAL/CH
MOTOREX AG, LANGENTHAL/CH
MOTOREX AG, LANGENTHAL/CH
MOTOREX AG, LANGENTHAL/CH
MOTOREX AG, LANGENTHAL/CH
MOTOREX AG, LANGENTHAL/CH
MOTUL SA, AUBERVILLIERS/FR
OEL-BRACK AG, HUNZENSWIL/CH
OEST LUBRICANTS GMBH & CO.KG, FREUDENSTADT/DE
OEST LUBRICANTS GMBH & CO.KG, FREUDENSTADT/DE
ORLEN OIL SP. Z O.O., KRAKOW/PL
ORLEN S.A., GDANSK/PL
ORLEN S.A., GDANSK/PL
PAKELO MOTOR OIL S.P.A. A.S.U., SAN BONIFACIO (VR)/IT
PAKELO MOTOR OIL S.P.A. A.S.U., SAN BONIFACIO (VR)/IT
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
PETRO-GAL S.A., LISBOA/PT
PETRO-GAL S.A., LISBOA/PT
PETRO-GAL S.A., LISBOA/PT
PETROL OFISI A.S., ISTANBUL/TR
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
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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
PETROSIN GEAR PRO SAE 75W-90
PETROSIN GEAR ULTRA SAE 75W-90
TITAN SUPERGEAR MC SAE 80W-140
TITAN SUPERGEAR PLUS SAE 80W-90
FUCHS TITAN CYTRAC RR SAE 75W-90
KIXX GEARTEC X GL-5 80W-90
GULF GEAR TDL 80W-90
GULF SYNGEAR 75W-90
GULF GEAR LD 80W-90
DEVOLON AXLE LSD 80W-90
HYUNDAI AXLE LSD 80W-90
LONGEVIA TC ECO 80W-90
LONGEVIA TCX ECO 75W-90
LONGEVIA HD 80W-90
SYNTHEGEAR 75W-90
INA HIPENOL TDL 80W-90
INA HIPENOL SHD 75W-90
MULTIGEROL 85W140
Q8 TRANS XGS 75W-90
Q8 TRANS XGR 75W-140
Q8 GEAR OIL XG SAE 80W-90
Q8 AXLE OIL XG SAE 80W-140
Q8 SYNTHETIC GEAR OIL SAE 80W-140
ROXOR SUPER DUTY SYNTH 75W-90
ROXOR TOPGEAR 80W-90
ROXOR SUPER DUTY SYNTH 75W-140
LIEBHERR SYNTOGear PLUS 75W-90
LIQUI MOLY VOLLSD GETRIEBEOEL TDL SAE 80W-90
LIQUI MOLY HYPOID. HYPOID GETR.ÖL TRUCK (75W-90)
MEGOL HYPOID-GETRIEBEOEL TDL 80W-90
MEGOL GETRIEBEOEL TRUCK-SYNTH SAE 75W-90
LUKOIL TRANSMISSION SYNTH BSX 75W-90
LUKOIL TRANSMISSION LD 80W-90
LUKOIL TRANSMISSION MN 75W-90
LUKOIL TRANSMISSION UNI 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
MOL HYKOMOL ZF 80W90
MOL HYKOMOL TDL 75W90
MOTOREX YORK PENTA TL SAE 75W/90
MOTOREX_YORK UNIVERSAL CT SAE 80W/90
MOTOREX YORK GEAR ZX TP SAE 80W/140
MOTOREX YORK UNISINT ZX SAE 75W90
MOTOREX YORK GEAR ZX TP SAE 80W/90
YORK 896 75W90
MOTUL GEAR SYNTH TDL 75W-90
MIDLAND SENSOGEAR 75W-90
OEST SYNTH GETRIEBEOEL SAE 75W-90
OEST GETRIEBEOEL FE SAE 80W-90 GL4/5
ORLEN OIL GEAR LL 80W-90
TITANIS SUPER GL-5 80W-90
LOTOS TITANIS GL-5 80W-90
GLOBAL GEAR SA SAE 85W-140
GLOBAL MULTIGEARS TS SAE 75W/90
TRAXON 80W-90
TRAXON XL SYNTHETIC BLEND 80W-140
TRAXON 80W-90
TRAXON 85W-140
TRAXON 80W-90
TRAXON XL SYNTHETIC BLEND 80W-140
TRAXON 85W-140
TRAXON SYNTHETIC 75W-90
TRAXON SYNTHETIC 75W-90
TRAXON 85W-140
GALP TRANSVEX TDL 85W140
GALP TRANSVEX TDL 75W90
GALP TRANSOIL HP XT 80W90
MAXIGEAR D 75W-90
MAXIGEAR TECH EP-X 80W-90
MAXIGEAR EP-X 80W-90
ARBOR TRW 90 (SAE 80W-90)
ARBOR TRW 140 (SAE 85W-140)
AMBRA HYPOIDE 90 (SAE 80W-90)
ACECLA GEAR 135H EP (SAE 80W-90)
AKROS GEAR EP 90 (SAE 80W-90)
AMBRA HYPOIDE 140 (SAE 85W-140)
ACECLA GEAR 135H EP (SAE 85W-140)
TUTELA TRANSMISSION W90/LA (SAE 80W-90)
TUTELA TRANSMISSION X-Road (75W-140)
TUTELA TRANSMISSION FE-AXLE (SAE 75W-90)
ARBOR TRW 90 (SAE 80W-90)
TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)
AMBRA HYPOIDE 90 (SAE 80W-90)
PETRONAS TUTELA AXLE 700 EHD 75W-90
TUTELA TRANSMISSION W 90/LA (SAE 80W-90)
ARBOR TRW 90 (SAE 80W-90)

ZF approval number

AKCELA GEAR 135H EP (SAE 80W-90)
AMBRA HYPOIDE 140 (SAE 85W-140)
AKCELA GEAR 135H EP (SAE 85W-140)
ARBOR TRW 140 (SAE 85W-140)
AKROS GEAR EP 90 (SAE 80W-90)
PETRONAS TUTELA AXLE 700 EHD 75W-140
PETRONAS TUTELA AXLE 300 85W-140
PETRONAS TUTELA AXLE 300 80W-90
PETRONAS TUTELA AXLE 300 85W-140
PETRONAS TUTELA AXLE 300 80W-90
UNIGEAR GOLD 75W90
UNIGEAR GOLD 75W90
RAVENOL SLG SAE 80W-90
RAVENOL GEAR SUPER SYNTH GSS SAE 75W-90
RAVENOL GEAR TRANS SYNTH GTS SAE 75W-90
RAVENOL TDG SAE 75W-110
REPSOL CARTAGO FE LD 75W90
REPSOL CARTAGO LD 80W90
REPSOL CARTAGO LD 85W140
REPSOL NAVIGATOR FE LL 75W-90
REPSOL NAVIGATOR LL 80W-90
REPSOL NAVIGATOR LL 85W-140
ROLF TRANSMISSION S9 AGE 75W-90
ROLF TRANSMISSION M5 A 80W-90
TRANSMISSION 80W-90 GL5
SYN GEAR DIFFERENTIAL OIL 75W-90
SHELL SPIRAX S6 AXME 75W-140
SHELL SPIRAX S3 AS 80W-140
SHELL SPIRAX S3 AD 80W-90
SHELL SPIRAX S3 AM 80W-90
SHELL SPIRAX S6 AXME 75W-90
SHELL SPIRAX HD 80W- 90
SHELL SPIRAX HD 80W- 90
SHELL SPIRAX HD 80W- 90
SHELL SPIRAX S 75W-140
SHELL SPIRAX S4 AX (80W-90)
SHELL SPIRAX S4 AX (80W-90)
SHELL SPIRAX S4 AX (80W-90)
SHELL SPIRAX S6 ADME 75W- 90
SHELL SPIRAX S6 AXME 75W-140
SHELL SPIRAX S3 AX 85W-140
SHELL SPIRAX S4 AX (80W-90)
SHELL SPIRAX S3 AX 80W-90
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SHELL SPIRAX S3 AX 85W-140
SHELL SPIRAX S3 AX 85W-140
SHELL SPIRAX S3 AX 85W-140
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SHELL SPIRAX S3 AX 80W-90
SHELL SPIRAX S3 AX 80W-90
SHELL SPIRAX S3 AX 80W-90
SHELL SPIRAX S3 AX 80W-90
SHELL SPIRAX S3 AM 80W-90
SHELL SPIRAX S6 AXME 75W-90
GEARLUBE HG M2 SAE 80W-90
SINOPEC GREATWALL VT 75W/90
SINOPEC MULTIPURPOSE-II GEAR OIL 80W-90
SRS GETRIEBEFLUID SML 80W-90
SRS GETRIEBEFLUID SXL 75W-90
SRS WOLIN HL 5 SAE 80W-90
SRS WOLIN HL 5 SAE 85W-90
SRS WOLIN HGAV 80W-90
SRS WOLIN HL 5 85W-140
SWD RHEINOL SYNKROL 5 - SAE 85W140
TEDEX SUPER GEAR OIL (TDL) SAE 80W-90
TEXSA GEAR MULTI GL-5 85W140
TEXSA GEAR MULTI GL-5 90
TEXSA GEAR MULTI GL-5 80W90
MONTANA DYNAMIC TRACTOGEAR 5 80W90
TRAXIUM DUAL 8 FE 80W-90
TRAXIUM AXLE 7 85W-140
TRAXIUM DUAL 9 FE 75W-90
DYNATRANS HD 80W-90
TRANSELF TYPE B 85W-140
TRAXIUM AXLE 7 80W-90
TRAXIUM AXLE 7 80W-90
TRANSELF TYPE B 80W-90
TRAXIUM AXLE 9 80W-90
TRAXIUM AXLE 9 80W-90
TRANSELF TYPE B 80W-90
DYNATRANS HD 80W 90
TRAXIUM AXLE 8 FE 80W-140
DYNATRANS HD 85W-140
TRANSELF SYN FE 75W-90
TRAXIUM AXLE 7 80W-90
TRAXIUM AXLE 7 80W-90
VALVOLINE HEAVY DUTY TDL PRO 75W-90
VALVOLINE HEAVY DUTY AXLE OIL PRO 80W-90 LD

ZF003642
ZF003647
ZF003648
ZF003649
ZF003658
ZF003658
ZF003658
ZF003696
ZF003703
ZF009901
ZF012051
ZF001203
ZF003606
ZF005984
ZF006037
ZF006038
ZF008356
ZF000045
ZF001141
ZF001142
ZF008268
ZF008269
ZF008270
ZF003626
ZF003629
ZF006100
ZF000702
ZF000021
ZF000479
ZF001237
ZF001292
ZF001262
ZF001352
ZF001353
ZF001354
ZF001380
ZF001619
ZF001620
ZF001621
ZF003334
ZF004860
ZF008188
ZF008191
ZF008187
ZF009571
ZF009572
ZF009573
ZF009574
ZF009575
ZF009576
ZF010960
ZF010963
ZF010962
ZF010959
ZF010961
ZF012279
ZF012287
ZF005976
ZF000527
ZF003332
ZF000447
ZF001655
ZF001911
ZF001912
ZF010330
ZF011907
ZF004746
ZF001342
ZF001458
ZF001941
ZF001942
ZF003665
ZF004817
ZF006073
ZF006074
ZF008196
ZF008219
ZF008224
ZF008225
ZF008227
ZF008229
ZF008230
ZF008231
ZF008232
ZF008296
ZF008328
ZF008393
ZF011486
ZF011518
ZF001283
ZF001837

Manufacturer (05A)

VALVOLINE EUROPE, DORDRECHT/NL
VALVOLINE GLOBAL PRODUCTS, LEXINGTON/US
WILHELM HOYER B.V. & CO. KG, VISSELHÖVEDE/DE
WILHELM HOYER B.V. & CO. KG, VISSELHÖVEDE/DE
WILHELM HOYER B.V. & CO. KG, VISSELHÖVEDE/DE
WOLF OIL CORPORATION N.V., HEMIKSEM/BE
YACCO SAS, ST PIERRE LES ELBEUF/FR
ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE
ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (05A)

VALVOLINE HEAVY DUTY AXLE OIL PRO 75W-140
KUBOTA 80W-90 GEAR LUBRICANT HD
HOYER GEAR F-FP 75W-90
HOYER GEAR M-FS 80W-90
HOYER GEAR M-HP 80W-90
WOLF OFFICIALTECH 75W90 GL 5
BVX 1000 75W-90
DIVINOL MULTI-AXLE 80W90
DIVINOL GETRIEBEÖL ST 80W90
ZF ECOFLUID X SAE 80W-90

ZF approval number

ZF001874
ZF008218
ZF011993
ZF011992
ZF012144
ZF003525
ZF009462
ZF001684
ZF012095
ZF001266

Lubricant class 05C

Transmission oil with limited-slip-additives

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

Manufacturer (05C)

ADDINOL LUBE OIL GMBH, LEUNA/DE
 ADDINOL LUBE OIL GMBH, LEUNA/DE
 AVIA AG, MÜNCHEN/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR
 BLASER SWISSLUBE AG, HASLE-RÜEGSAU/CH
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CHAMPION CHEMICALS N.V., HEMIKSEM/BE
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FINKE MINERALÖLWERK GMBH, 27374 VISSELHÖVEDE/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 GS CALTEX CORPORATION, SEOUL/KR
 GS CALTEX CORPORATION, SEOUL/KR
 GULF OIL INTERNATIONAL, MUMBAI/IN
 HITACHI CONSTRUCTION MACHINERY EUROPE NV, AMSTERDAM/NL
 HUILES BERLIET S.A., SAINT-PIERST/FR
 INA MAZIVA LTD., ZAGREB/HR
 JOHN DEERE, MOLINE, ILLINOIS/US
 KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE
 LIQUI MOLY GMBH, ULM/DE
 LIQUI MOLY PRODUKTIONS GMBH & CO. KG, SAARLOUIS/DE
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT
 MOEVE CLIENT SOLUTIONS, S.A.U., MADRID/ES
 MOL-LUB KFT, ALMASFUZITO/HU
 MOTOREX AG, LANGENTHAL/CH
 MOTOREX AG, LANGENTHAL/CH
 NILS SPA, BURGSTALL/IT
 NORTHLAND PRODUCTS COMPANY, WATERLOO, IOWA/US
 OEST LUBRICANTS GMBH & CO.KG, FREUDENSTADT/DE
 OILFINO MINERALÖL GMBH, PRISDORF/DE
 ORLEN OIL SP. Z O.O., KRAKOW/PL
 ORLEN OIL SP. Z O.O., KRAKOW/PL
 ORLEN OIL SP. Z O.O., KRAKOW/PL
 ORLEN OIL SP. Z O.O., KRAKOW/PL
 ORLEN S.A., GDANSK/PL
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT
 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
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 ROLF LUBRICANTS GMBH, LEVERKUSEN/DE
 SASOL ENERGY, JOHANNESBURG/ZA
 SAVITA OIL TECHNOLOGIES LIMITED, MUMBAI/IN
 SENNEBOGEN MASCHINENFABRIK GMBH, STEINACH/DE
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SK ENMOVE CO.,LTD., SEOUL/KR
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 UNIL OPAL, SAUMUR/FR
 VALVOLINE EUROPE, DORDRECHT/NL
 WILHELM HOYER B.V. & CO. KG, VISSSELHÖVEDE/DE
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE
 ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (05C)

ADDINOL GETRIEBEÖL GH 85W-90 LS
 ADDINOL GETRIEBEÖL GH 80W-90 LS
 AVIA POWERTRAIN AX-LS 85W-90
 AVISTA PEER EVO GL5 LS SAE 90
 TECTROL MULTIGEAR LS 90
 TECTROL MULTIGEAR LS 90
 BELGEAR LS 85W90
 EVOLCA BGX 85W90
 CASTROL TRANSMAX LIMITED SLIP LL 75W-140
 CASTROL TRANSMAX LIMITED SLIP Z 85W-90
 CHAMPION OEM SPECIFIC 80W90 LS GL 5
 GEAR OIL ZF SAE 80W-90
 GEARTEX LS 80W-90
 GEARTEX LS 85W-90
 MOBILUBE LS 85W-90
 MOBILUBE LS 85W-90
 MOBIL DELVAC MODERN AXLE OIL 85W-90 LIMITED SLIP
 AVIATICON HYPOID LS 90
 FUCHS TITAN GEAR LS SAE 90
 DOOSAN LS GEAR OIL 80W90
 DEVELON LS GEAR OIL 80W90
 GULF GEAR LS 90
 HITACHI GENUINE AXLE OIL ZX-W LS 80W-90
 EP 90 GL
 INA HIPENOL GTL LS 90
 JOHN DEERE GL-5 GEAR LUBRICANT W/LS ADD 80W-90
 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
 LUKOIL GEAR GL-5 LS 85W-90
 LUKOIL TRANSMISSION LS 80W-90
 LUKOIL TRANSMISSION LS 85W-90
 CEPESA AURIGA LS PLUS 80W-90
 MOL HYKOMOL LS 85W90
 MOTOREX YORK LS UNIVERSAL SAE 90
 YORK 699 LS SAE 90
 ALGOL HYPOID LS 90
 POSI-GRIP JDZF 80W90
 OEST GETRIEBEÖL HYPOID LS 90
 OILFINO VARIUS G 400LS 85W-90
 PLATINUM GEAR LS 80W-90
 PLATINUM AGRO LS 80W-90
 ORLEN OIL GEAR LS 80W-90
 ORLEN OIL AGRO LS 80W-90
 LOTOS TITANIS LS GL-5 80W-90
 UNIVERSAL GEAR EP LS SAE 85W/90
 GALP TRANSOIL HP LS 90
 MAXIGEAR EP-X 85W-90LS
 AMBRA AXF 80W-90 (SAE 80W-90)
 AKCELA AXLEPOWER (SAE 80W-90)
 TUTELA TRANSMISSION W90/LS (SAE 80W-90)
 ARBOR TTF (SAE 80W-90)
 PETRONAS AXLE 300 LS 80W-90
 SUPERGEAR BRONZE 85W90 LS
 REPSOL CARTAGO EP AUTOBLOCANTE SAE 80W90
 REPSOL NAVIGATOR LSD 80W-90
 ROLF TRANSMISSION M5 A-LS 80W-90
 SASOL DIFFERENTIAL OIL LIMITED SLIP 80W-90
 SAVSOL AUTOGEAR 90 LIMITED SLIP GL-5
 SENLUBE GEAR HYPOID LS
 SHELL SPIRAX S3 ALS 80W-90
 SHELL SPIRAX S3 ALS 85W- 90
 SINOPEC GREATWALL ZLS GL-5 85W/90
 SK ZIC G-5 LSD 80W-90
 SRS WIOLIN RSH
 ELF TRACTELF BLS 80W-90
 DYNATRANS DA 80W-90
 DYNATRANS LS 80W-90
 CLASS AGRISHIFT BLS 80W-90
 GEAR AB-EP 85W90
 VALVOLINE HEAVY DUTY AXLE OIL PRO 80W-90 LS
 HOYER GEAR M-LS 90
 WOLF OFFICIALTECH 80W90 LS GL 5
 ZF POWERFLUID GEAR LS

ZF approval number

ZF000629
 ZF000703
 ZF012107
 ZF004776
 ZF001167
 ZF012142
 ZF002257
 ZF004736
 ZF002141
 ZF002178
 ZF003555
 ZF000787
 ZF000809
 ZF000810
 ZF000031
 ZF011090
 ZF011912
 ZF002301
 ZF000651
 ZF001341
 ZF011965
 ZF000891
 ZF003705
 ZF008267
 ZF000424
 ZF001312
 ZF002109
 ZF000845
 ZF001367
 ZF001345
 ZF012151
 ZF012140
 ZF012114
 ZF001050
 ZF001114
 ZF008206
 ZF008260
 ZF003447
 ZF000049
 ZF001479
 ZF000740
 ZF000603
 ZF001272
 ZF011287
 ZF011924
 ZF000924
 ZF000027
 ZF003410
 ZF001480
 ZF000546
 ZF000781
 ZF000901
 ZF001373
 ZF009452
 ZF001004
 ZF000981
 ZF008276
 ZF003625
 ZF000700
 ZF001898
 ZF008345
 ZF001303
 ZF004813
 ZF000127
 ZF003340
 ZF000442
 ZF006120
 ZF006121
 ZF006122
 ZF008173
 ZF000526
 ZF001996
 ZF011994
 ZF003552
 ZF008414

Lubricant class 05E
Universal axle and transmission oil

Manufacturer (05E)	Trade name (05E)	ZF approval number
CNH INDUSTRIAL AMERICA LLC, RACINE, WI/US	PREMIUM TRANSAXLE OIL 80W-140	ZF005941
JOHN DEERE, MOLINE, ILLINOIS/US	JOHN DEERE HY-GARD FLEX	ZF012272
VIBRA ENERGIA S.A., DUQUE DE CAXIAS/BR	LUBRAX UNITRACTOR 10W-30	ZF010660
WOLF OIL CORPORATION N.V., HEMIKSEM/BE	WOLF TRACTOFLUID 80W-140	ZF012017

Universal axle and transmission oil

ZF approval number

ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL UTTO SAE 10W-30	ZF000509
ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL UTTO EXTRA (SAE 20W-40)	ZF001845
ARGO TRACTORS S.P.A., FABBRICO RE/IT	VELA C+ AGROLUBE	ZF003719
ARGO TRACTORS S.P.A., FABBRICO RE/IT	VELA C+ LANDINI	ZF003717
ARGO TRACTORS S.P.A., FABBRICO RE/IT	VELA C+ MCCORMICK	ZF003718
AVIA AG, MÜNCHEN/DE	AVIA HYDROFLUID TD	ZF001811
AVIA AG, MÜNCHEN/DE	AVIA HYDROFLUID DLZ	ZF005975
AVIA AG, MÜNCHEN/DE	AVIA POWERTRAIN UTTO-DLZ	ZF012242
BAYWA AG MÜNCHEN, MÜNCHEN/DE	TECTROL UTTO-ZF	ZF001161
BAYWA AG MÜNCHEN, MÜNCHEN/DE	TECTROL UTTO-HF	ZF002193
BAYWA AG MÜNCHEN, MÜNCHEN/DE	TECTROL UTTO-HF	ZF012209
BAYWA AG MÜNCHEN, MÜNCHEN/DE	TECTROL UTTO-ZF	ZF012219
BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR	BELGIN LUBEX AGROS UTTO PLUS	ZF012190
BELL EQUIPMENT GROUP SERVICES (PTY) LTD, RICHARDS BAY/ZA	BELL UTTO ULTRA	ZF012243
BLASER SWISSLUBE AG, HASLE-RÜEGSAU/CH	EVOLCA UTTO 8068	ZF004739
BP PLC., LONDON/GB	BP TRACTRAN TF-10	ZF000897
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX AGRI TRANS PLUS 80W	ZF002188
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX AGRI TRANS PLUS 80W	ZF004801
CATERPILLAR, INC., MOSSVILLE/US	CAT MULTIPURPOSE TRACTOR OIL	ZF000834
CHAMPION CHEMICALS N.V., HEMIKSEM/BE	CHAMPION U.T.T. OIL 170 BM	ZF011908
CHEVRON LUBRICANTS, SAN RAMON, CA/US	1000 THF	ZF011782
CHEVRON LUBRICANTS, SAN RAMON, CA/US	1000 THF	ZF011683
CHEVRON LUBRICANTS, SAN RAMON, CA/US	1000 THF	ZF011783
CHEVRON LUBRICANTS, SAN RAMON, CA/US	1000 THF	ZF011749
CHEVRON LUBRICANTS, SAN RAMON, CA/US	1000 THF	ZF011650
CHEVRON LUBRICANTS, SAN RAMON, CA/US	1000 THF	ZF011716
CLASS KGAA MBH, HARSEWINKEL/DE	CLAAS AGRISHIFT GA 12	ZF012290
CNH INDUSTRIAL AMERICA LLC, RACINE, WI/US	PREMIUM TRANSAXLE OIL 20W-40	ZF011941
CNH INDUSTRIAL AMERICA LLC, RACINE, WI/US	PREMIUM TRANSAXLE OIL 20W-40	ZF011940
DEUTSCHE ÖLWERKE LUBMIN, LUBMIN/DE	AVENO UTTO	ZF001687
ENGEN PETROLEUM (PTY) LIMITED, CAPE TOWN/ZA	ENGEN AGRIFLUID	ZF010627
EUROL B.V., NJIVERDAL/NL	EUROL HYKROL JD 68	ZF001971
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 424	ZF000040
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 424	ZF000060
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL HYDRAUL 56	ZF003675
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 424	ZF004764
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 428	ZF005939
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 428	ZF008221
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 428	ZF008383
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 424	ZF011883
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 428 V2	ZF011982
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 428 V2	ZF011970
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 428 V2	ZF011968
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 428 V2	ZF011969
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 428 V2	ZF011972
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILFLUID 428 V2	ZF011983
FINKE MINERALÖLWERK GMBH, 27374 VISSSELHÖVEDE/DE	AVIATICON AGRA PREMIUM UTTO	ZF004850
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN UTTO ZF (SAE 20W-40)	ZF000661
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN AGRIFARM UTTO MP	ZF002184
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN AGRIFARM UTTO MP	ZF002183
FUCHS PETROLUB SE, MANNHEIM/DE	TITAN UTTO WB	ZF004829
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS AGRIFARM UTTO MP	ZF012245
GB LUBRICANTS, GATESHEAD/GB	GB UNITRANS(R) ZF	ZF000870
GS CALTEX CORPORATION, SEOUL/KR	DEVELON AXLE OIL STANDARD	ZF011963
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF MPTF 10W-30	ZF000921
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF MPTF 10W-30	ZF000922
HD HYUNDAI OILBANK, LTD, GYEONGGI-DO/KR	XTEER THF 75W-80	ZF002219
HD HYUNDAI OILBANK, LTD, GYEONGGI-DO/KR	DEVELON AXLE GL-4 75W-80	ZF012284
HD HYUNDAI OILBANK, LTD, GYEONGGI-DO/KR	HYUNDAI AXLE GL-4 75W-80	ZF012291
INA MAZIVA LTD., ZAGREB/HR	INA TRANSHIDROL JD 50	ZF000400
INA MAZIVA LTD., ZAGREB/HR	INA TRANSHIDROL ZF 20W-40	ZF000433
INA MAZIVA LTD., ZAGREB/HR	INA TRANSHIDROL JD 50	ZF000613
JOHN DEERE, MOLINE, ILLINOIS/US	JOHN DEERE HY-GARD	ZF001223
KROON-OIL B.V., ALMELO/NL	AGRIFLUID HT-PLUS	ZF008247
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE	Q8 T 2000	ZF000177
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE	JCB HP GEAR OIL PLUS	ZF001636
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE	JCB HP GEAR OIL PLUS	ZF002096
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE	JCB HP GEAR OIL PLUS	ZF003538
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE	Q8 T 2200	ZF003694
KUWAIT PETROLEUM (BELGIUM) N.V., ANTWERP/BE	Q8 TERRA 2200 UTTO	ZF012087
LAEMMLE CHEMICALS AG, MADETSWIL/CH	ROXOR CONSTAR UTTO 803	ZF009445
LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE	LIEBHERR GEAR MF 80W	ZF001856
LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE	LIEBHERR GEAR PLUS 20W-40	ZF004845
LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE	LIEBHERR GEAR MF 80W	ZF004844
LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE	LIEBHERR GEAR PLUS 20W-40	ZF006093
LIQUI MOLY GMBH, ULM/DE	LIQUI MOLY SPECIAL UTTO	ZF001368
LIQUI MOLY GMBH, ULM/DE	LIQUI MOLY TRAKTORÖL UTTO	ZF011939
LIQUI MOLY PRODUKTIONS GMBH & CO. KG, SAARLOUIS/DE	MEGOL TRAKTORENOEL UTTO PREMIUM SAE 10W-30	ZF001344
LIQUI MOLY PRODUKTIONS GMBH & CO. KG, SAARLOUIS/DE	MEGOL TRAKTORENOEL UTTO	ZF011906
MOEVE CLIENT SOLUTIONS, S.A.U., MADRID/ES	CEPSA AURIGA TE 55 10W-30	ZF001200
MOTOREX AG, LANGENTHAL/CH	MOTOREX YORK FARMER POLY 604	ZF006009
MOTOREX AG, LANGENTHAL/CH	MOTOREX YORK FARMER POLY 304	ZF008198
MOTOREX AG, LANGENTHAL/CH	MOTOREX YORK UTTO CF SAE 10W30	ZF008241
PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT	UTTO FLUID 4 D SAE 10W-30	ZF012042
PETROGAL S.A., LISBOA/PT	GALP TRALUB 807 S	ZF000849
PETROL OFISI A.S., ISTANBUL/TR	MAXITRAK TMS OIL 500	ZF001351

ZF approval number

ZF000544
ZF000545
ZF000551
ZF000944
ZF000943
ZF001184
ZF001409
ZF001461
ZF001634
ZF001838
ZF002075
ZF002092
ZF002093
ZF002139
ZF002152
ZF003443
ZF004830
ZF009459
ZF009460
ZF010231
ZF010264
ZF010000
ZF009467
ZF011937
ZF011980
ZF001718
ZF008204
ZF003445
ZF002229
ZF002230
ZF000707
ZF001828
ZF001131
ZF008341
ZF000357
ZF000358
ZF000359
ZF001295
ZF001613
ZF003325
ZF005938
ZF008286
ZF001959
ZF000105
ZF004916
ZF003380
ZF004867
ZF001346
ZF002222
ZF008262
ZF012180
ZF003565
ZF009470
ZF002041
ZF001366
ZF011996
ZF005951
ZF011927

Lubricant class 05G
Premium universal axle and transmission oil

Manufacturer (05G)	Trade name (05G)	ZF approval number
SINOPEC LUBRICANT CO., LTD., BEIJING/CN	SINOPEC GREATWALL HD DRIVE AXLE OIL	ZF002162
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE	ZF POWERFLUID C-PLUS (GOLD 1)	ZF002087
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE	ZF POWERFLUID PLUS	ZF005995

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.

In addition, the following trade products may be used:

Manufacturer (05M)

PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH
PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH
PANOLIN DISTRIBUTION AG, STEINHAUSEN/CH
SAVITA OIL TECHNOLOGIES LIMITED, MUMBAI/IN

Trade name (05M)

SHELL PANOLIN S4 HLP SYNTH 32
SHELL PANOLIN S4 HLP SYNTH 46
SHELL PANOLIN S4 HLP SYNTH 68
TATA HITACHI SUPREME P

ZF approval number

ZF012032
ZF012033
ZF012034
ZF001707

Lubricant class 05N

Transmission oil with limited-slip-additives

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

Manufacturer (05N)

AVIA AG, MÜNCHEN/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 CHAMPION CHEMICALS N.V., HEMIKSEM/BE
 CHAMPION CHEMICALS N.V., HEMIKSEM/BE
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FINKE MINERALÖLWERK GMBH, 27374 VISSELHÖVEDE/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 KROON-OIL B.V., ALMELO/NL
 MORRIS LUBRICANTS, SHREWSBURY/GB
 MOTOREX AG, LANGENTHAL/CH
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT
 PHI OIL GMBH, ST. GEORGEN/AT
 ROCK OIL, WARRINGTON/GB
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 TONGYI PETROLEUM CHEMICAL CO., LTD., BEIJING/CN
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 WILHELM HOYER B.V. & CO. KG, VISSELHÖVEDE/DE
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE
 ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE

Trade name (05N)

AVIA POWERTRAIN PLUS AX-LS 80W-90
 TECTROL MULTIGEAR LS 90 LV
 CHAMPION OEM SPECIFIC 80W-90 LS GL 5 ZF-N
 CHAMPION OEM SPECIFIC 85W-90 LS GL 5 ZF-N
 MOBIL DELVAC MODERN AXLE OIL 80W-90 LIMITED SLIP
 MOBIL DELVAC MODERN AXLE OIL 80W-90 LIMITED SLIP
 MOBIL DELVAC MODERN AXLE OIL 80W-90 LIMITED SLIP
 AVIATICON HYPOID LS PLUS 80W-90
 TITAN SUPERGEAR LS SAE 80W-90
 GEARLUBE LS 80W-90
 TERRAIN LS 80W-90
 MOTOREX YORK LS UNIVERSAL SAE 80W/90
 UNIVERSAL GEAR EP LS SAE 80W-90
 SUPERGEAR BRONZE 80W90 LS
 SD LS 80W-90
 SRS WIOLIN RSH PLUS 80W-90
 TONGYI 80W-90
 DYNATRANS DAX 80W-90
 HOYER GEAR M-LS+ 80W-90
 WOLF OFFICIALTECH 80W-90 LS GL 5 ZF-N
 WOLF OFFICIALTECH 85W-90 LS GL 5 ZF-N
 DIVINOL MULTI-AXLE LS 80W90

ZF approval number

ZF012202
 ZF009443
 ZF011947
 ZF012199
 ZF009436
 ZF010924
 ZF011990
 ZF011976
 ZF008289
 ZF009458
 ZF010985
 ZF011905
 ZF010992
 ZF012016
 ZF010297
 ZF009472
 ZF012020
 ZF009422
 ZF011995
 ZF011930
 ZF012185
 ZF010462

Lubricant class 05P

Lubricating grease for swivel bearing axles, motor grader

Manufacturer (05P)	Trade name (05P)	ZF approval number
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB TOTALENERGIES LUBRIFIANTS, NANTERRE/FR	SHELL AEROSHELL GREASE 22 AEROGREASE N31089	ZF012106 ZF012080

Lubricant class 05Q

Multi-purpose grease according to the specification / requirement:

- DIN 51825 classification KP2K-30 and/or
ISO 6743-9 classification ISO-L-XCCEB2 or
ISO 6743-9 classification ISO-L-XCCHB2
- Base oil: mineral or synthetic hydrocarbons (no ester)
- Thickener type: Ca, Li (simple, mixed, complex soap)
- Consistency class: NLGI 2
- EP additives
- Temperature operation limits: min. -30°C to +120°C

Note:

All commercial products that meet the above specifications/requirements may be used.

There will be no product listing.

At outside temperatures above -20°C, greases with the following classification may also be used:

DIN 51825 classification KP2K-20 and/or
ISO 6743-9 classification ISO-L-XBCEB2 or
ISO 6743-9 classification ISO-L-XBCHB2