



**Hydrostatic-mechanical
and electric drive systems**

List of lubricants TE-ML 07

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1. Approved lubricant classes

Product groups	Lubricant classes for service fills ⁽¹⁾	Alternative lubricant classes for service fills ⁽¹⁾
Powershift transmissions HL AVG ⁽²⁾	07B / 07D / 07E / 07F	---
Continuously variable hydrostatic drives HC	Mechanical section: 07D Hydraulic section: 07D / 07H ⁽³⁾	---
Mobile mixer drives CML	Mechanical section: Gear oil ZF Ecofluid X (ZF No. 0681 000 412) Hydraulic section: 07D / 07H ⁽³⁾	---
Mobile mixer drives P3301, P4300, P5300, P6300, P7300 PK5300, PK6500, PK7500	07A / 07C / 07E	07D
Mobile mixer drives PLM P3200	07C / 07E	07D
Swing drives DR	07D / 07E / 07G / 07H	---
Transmissions for lifting equipment RME RMT	07A / 07E	---

The list of lubricants TE-ML 07, **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

2. Low temperature limits

Lubricant classes	Viscosity grades	Use at outside temperatures above ⁽⁴⁾	
		Hydrostatic-mechanical and electric drive - Hydraulic section	Hydrostatic-mechanical and electric drive - Mechanical section
07A (Gear oil)	SAE 75W-90, 75W-110, 75W-140	---	-40°C
	SAE 80W-85, 80W-90, 80W-110, 80W-140	---	-26°C
	SAE 85W-90, 85W-110, 85W-140, 90	---	-12°C
ZF Ecofluid X (Gear oil)	SAE 80W-90	---	-26°C
07B, 07C, 07D, 07F (STOU, engine oil, off highway lubricants)	SAE 5W-30, 5W-40	-35°C	-40°C
	SAE 10W-30, 10W-40	-30°C	-35°C
	SAE 15W-30, 15W-40	-25°C	-30°C
	SAE 20W-20	-20°C	-25°C
	SAE 20W-40	-20°C	---
	SAE 30	-5°C	-10°C
07E (Biodegradable lubricants)	SAE 75W-80	-35°C	-40°C
07G (Biodegradable lubricants)	ISO VG 46	---	-10°C
	ISO VG 68	---	-5°C
07H (hydraulic oil)	ISO VG 46	---	-10°C
	ISO VG 68	---	-5°C
	ISO VG 100	---	0°C

3. Explanation of footnotes and comments

Footnotes

- (1) **Refer to the following pages for approved commercial products.**
- (2) For AVGs directly mounted on ZF axles, use gear oils in accordance with TE-ML 05 for the common oil circuit of the transmission and axle.
- (3) Moreover, please observe the specifications provided by the vehicle manufacturer or hydraulic manufacturer.
- (4) An even warm-up phase is needed in order to reach the minimum oil temperature required for starting the drive unit (mentioned low temperature limit). At outside temperatures below -5°C, a warm-up phase of at least 10 minutes is required, irrespective of the viscosity grade used.

Comments

1. A Multipurpose grease classified KP2K-20 acc. to DIN 51825 or classified ISO-L-XBCHB2 acc. to ISO 6743-9 must be used on greasing points (basic oil API Group 1, 2, 3 or 4, EP additives, lithium saponified, temperature use limits min. between -20 and +120° C, NLGI-Class 2).
2. 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.

4. Lubricant classes and approved trade products

Lubricant class 07A

Gear oil in accordance with Specification

- API GL-5 / MIL-L-2105D
- MIL-PRF-2105E
- SAE J2360

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

Base oil API Group 1 / 2 / 3 / 4

Note:

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

Lubricant class 07B

STOU (Super tractor oil universal)

Viscosity grades: SAE 10W-30 / 10W-40 / 15W-30 / 15W-40 / 20W-40

Manufacturer (07B)

ADDINOL LUBE OIL GMBH, LEUNA/DE
 AVIA AG, MÜNCHEN/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/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
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
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 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
 CASTROL LTD, LONDON/GB
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CLASS KGAA MBH, HARSEWINKEL/DE
 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
 GRUPA LOTOS S.A., GDANSK/PL
 GRUPA LOTOS S.A., GDANSK/PL
 GRUPA LOTOS S.A., GDANSK/PL
 IGOL FRANCE, AMIENS/FR
 INA MAZIVA LTD., ZAGREB/HR
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 MOTUL SA, AUBERVILLIERS/FR
 NOVA STILMOIL SPA, MODENA/IT
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT
 PETROGAL S.A., LISBOA/PT
 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
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 SAME DEUTZ FAHR, TREVIGLIO/IT
 SAME DEUTZ FAHR, TREVIGLIO/IT
 SAME DEUTZ FAHR, TREVIGLIO/IT
 SAME DEUTZ FAHR, TREVIGLIO/IT
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 TAMOIL ITALIA SPA, MILANO/IT
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 UNIL OPAL, SAUMUR/FR
 ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE

Trade name (07B)

ADDINOL SUPER TRAKTOR MU 1045
 TRACTAVIA SPEZIAL FE 10W-40
 PENNASOL STOU 10W-40
 PENNASOL STOU 15W-30
 AVISTA STOU SAE 10W-30
 AVISTA STOU SAE 10W-40
 AVISTA STOU SAE 15W-30
 TECTROL SUPER 2000 CD-HC
 BP VANELLUS AGRISUPER UNIVERSAL 10W-40
 BP SUPER TOU 15W-40
 BP VANELLUS AGRISUPER UNIVERSAL 15W-40
 FARMER TRAC VARIANT SAE 10W/30
 MOTOREX FARMER TRAC SAE 10W/30
 FARMER TRAC SAE 10W/40
 CASTROL AGRISUPER 15W-30
 CASTROL AGRISUPER PLUS 10W-40
 CASTROL AGRISUPER PLUS 10W-30
 CASTROL AGRISUPER PLUS 15W-40
 CASTROL TRANSMAX AGRISUPER PLUS 15W-40
 CASTROL TRANSMAX AGRISUPER PLUS 15W-40
 CASTROL TRANSMAX AGRISUPER PLUS 15W-40
 CASTROL TRANSMAX AGRISUPER PLUS 15W-40
 CASTROL TRANSMAX AGRISUPER PLUS 15W-30
 CASTROL TRANSMAX AGRISUPER PLUS 10W-30
 CEPSA AGRO PLUS 15W-40
 SUPER TRACTOR SAE 15W-40
 CLAAS AGRISUPER UNIVERSAL 300 15W-40
 MOBIL AGRISUPER EXTRA 10W-40
 MOBIL AGRISUPER 15W-40
 FUCHS AGRIFARM STOU MC SAE 10W-40
 FUCHS AGRIFARM STOU MC SAE 10W-30
 FUCHS AGRIFARM UTTO VT
 G-SPECIAL STOU 10W-40
 AGROL STOU PLUS CG-4 10W/40
 AGROL STOU PLUS CG-4 10W/30
 AGROLIS STOU PLUS SAE 10W-40
 PRO MULTI SUPER 10W-40
 INA AGRINA 15W-30
 Q8 T 1000 D SAE 10W-30
 Q8 T 1000 SAE 15W-30
 Q8 T 5000 SAE 10W-40
 Q8 T 1000 SAE 10W-30
 MOTUL DS SUPER AGRISUPER 10W-30
 MF LUBE+ AGRILUBE UNIVERSAL 10W30
 LUKOIL VERSO MOTOR 10W-40
 STOU FLUID SAE 15W/40
 GALP UNIAGRO 15W40
 AMBRA UNIVERSAL 15W-40 (SAE 15W-40)
 ARBOR UNIVERSAL 15W-40 (SAE 15W-40)
 AKROS UNIVERSAL 15W-40 (SAE 15W-40)
 AKCELA SUPER UNIVERSAL 15W-30 (SAE 15W-30)
 AKROS MULTI VT (SAE 10W-30)
 AKCELA MULTI TRACTOR (SAE 10W-40)
 ARBOR UNIVERSAL 10W-40 (SAE 10W-40)
 AMBRA VT SPECIAL (SAE 10W-40)
 AMBRA UNIVERSAL 10W-30 (SAE 10W-30)
 AKCELA SUPER UNIVERSAL 10W-30 (SAE 10W-30)
 AMBRA UNIVERSAL 15W-40 (SAE 15W-40)
 ARBOR UNIVERSAL 15W-40 (SAE 15W-40)
 AKROS UNIVERSAL 15W-40 (SAE 15W-40)
 AMBRA UNIVERSAL 15W-40 (SAE 15W-40)
 ARBOR UNIVERSAL 15W-40 (SAE 15W-40)
 AKROS UNIVERSAL 15W-40 (SAE 15W-40)
 AMBRA UNIVERSAL 10W-30 (SAE 10W-30)
 AMBRA UNIVERSAL 10W-30 (SAE 10W-30)
 AKROS UNIVERSAL 15W-40 (SAE 15W-40)
 AMBRA UNIVERSAL 15W-40 (SAE 15W-40)
 ARBOR UNIVERSAL 15W-40 (SAE 15W-40)
 AMBRA UNIVERSAL 10W-30 (SAE 10W-30)
 AKCELA SUPER UNIVERSAL 15W-30 (SAE 15W-30)
 REPSOL CERES STOU 10W40
 SDF X-TREME
 DF X-TREME
 SDF TOP MULTIFUNCTION
 DF TOP MULTIFUNCTION
 SHELL SPIRAX S4 TX
 SHELL SPIRAX S3 T (SAE 15W-40)
 SRS PRIMAANOL 10W-30
 SRS PRIMAANOL 10W-40
 TAMOIL SUPER TRACTOR SAE 15W-40
 TOTAL MULTAGRI MS 15W-40
 ELF TRACTORELF ST3 15W-40
 XANTHOS 10W40
 DIVINOL SYNTRAC TS 10W40

ZF approval number

ZF002086
 ZF001810
 ZF001697
 ZF001698
 ZF002048
 ZF002049
 ZF002050
 ZF001205
 ZF001327
 ZF001592
 ZF002228
 ZF000576
 ZF001617
 ZF001743
 ZF001011
 ZF001325
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 ZF000467
 ZF002231
 ZF002232
 ZF002233
 ZF002234
 ZF000015
 ZF001300
 ZF001695
 ZF001696
 ZF000774
 ZF001154
 ZF001252
 ZF000682
 ZF001626

Lubricant class 07C

Engine oil

Viscosity grades: SAE 5W-40 / 10W-40 / 15W-40

Manufacturer (07C)

KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
NOVA STILMOIL SPA, MODENA/IT
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB

Trade name (07C)

Q8 T 750 SAE 15W-40
ORION SUPER PLUS 15W40
SHELL SIRIUS 15W-40
SHELL RIMULA R3X 15W-40

ZF approval number

ZF000125
ZF000920
ZF000436
ZF000437

Lubricant class 07D

Engine oil in accordance with specification

- API CD/CE/CF-4/CF/CG-4/CH-4/CI-4/CI-4 Plus/CJ-4
- API SF/SG/SH/SJ/SL/SM
- ACEA-categories A/B/E

Viscosity grades:

Product groups in accordance with page 1	Viscosity grades
<ul style="list-style-type: none"> - Powershift transmissions HL, AVG - Continuously variable hydrostatic drives HC - Mobile mixer drives CML - hydraulic section - Swing drives DR 	SAE 5W-30 / 5W-40 / 10W-30 / 10W-40 / 15W-30 / 15W-40 / 20W-20 / 30
<ul style="list-style-type: none"> - Mobile mixer drives P-series, PK-series and PLM-series 	SAE 10W-40 / 15W-40

Note:

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

Lubricant class 07E

Biodegradable lubricant (Special approval)

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 (07E)

PANOLIN AG, MADETSWIL/CH

Trade name (07E)

PANOLIN BIOFLUID ZFH 10W/30

ZF approval number

ZF000391

Lubricant class 07F
Off highway lubricants
Viscosity grades: SAE 30

Manufacturer (07F)

ADDINOL LUBE OIL GMBH, LEUNA/DE
 ARAL AG, BOCHUM/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BP PLC., LONDON/GB
 BP PLC., LONDON/GB
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CATERPILLAR, INC., MOSSVILLE/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FABRIKA MAZIVA FAM AD, KRUSĚVAC/RS
 FUCHS PETROLUB SE, MANNHEIM/DE
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU
 GS CALTEX CORPORATION, SEOUL/KR
 INA MAZIVA LTD., ZAGREB/HR
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 MOL-LUB KFT, ALMASFUZITO/HU
 NIS AD, NOVI SAD/RS
 PETROGAL S.A., LISBOA/PT
 PRISTA OIL HOLDING EAD, RUSE/BG
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE
 RN-LUBRICANTS, LLC, MOSCOW/RU
 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
 TEXSA DO BRASIL LTDA, UMUARAMA/PR/BR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR

Trade name (07F)

ADDINOL FLUID TO-4 SAE 30
 ARAL FLUID TO-4 30
 AVISTA SPECIAL GEAR OIL TO-4 SAE 30
 TECTROL UTTO-TO
 BP AUTRAN 4 30
 BP AUTRAN TO 430
 GEAR OIL MEGA TO-4 SAE 30
 CASTROL TRANSMAX OFFROAD 30
 CASTROL TFC 430
 CAT TDTO SAE 30
 TORQUE FLUID 434
 DELO TORQFORCE SAE 30
 URSA TORQFORCE SAE 30
 MOBILTRANS HD 30
 TRANSHIDO TO-4 SAE 30
 FUCHS TITAN UTTO TO-4 SAE 30
 G-SPECIAL TO-4 30
 KIXX GEARTEC TO-4 30
 INA TRANSMATIK 30
 Q8 TO-4 FLUID SAE 30
 MOL TRANSFLUID TO-4 SAE 30
 NISOTEC TRANSFLUID TO-4 SAE 30
 GALP MULTITRANS 30
 PRISTA TO-4 30
 RAVENOL CATOEL TO-4 SAE 30
 ROSNEFT KINETIC CATRAN SAE 30
 SHELL SPIRAX S4 CX 30
 SHELL SPIRAX S4 CX 30
 SHELL SPIRAX S4 CX 30
 SHELL SPIRAX S4 CX 30
 SINOPEC PREMIUM HD 30 TRANSMISSION OIL
 SRS WIOLIN 430
 TEXSA TAC-4 30
 TOTAL DYNATRANS AC 30
 TOTAL DYNATRANS ACX 30

ZF approval number

ZF000511
 ZF000149
 ZF002033
 ZF002194
 ZF001000
 ZF001405
 ZF001740
 ZF000267
 ZF000999
 ZF000869
 ZF000798
 ZF001903
 ZF001905
 ZF000035
 ZF001108
 ZF002185
 ZF000239
 ZF002238
 ZF000401
 ZF002118
 ZF002244
 ZF000329
 ZF002015
 ZF000884
 ZF001852
 ZF003343
 ZF000005
 ZF000969
 ZF001209
 ZF001088
 ZF001932
 ZF001921
 ZF001821
 ZF002217

Lubricant class 07G

Biodegradable lubricant (Special approval)

Viscosity grade: ISO VG 46 / 68

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 (07G)BASF SE, LUDWIGSHAFEN/DE
PANOLIN AG, MADETSWIL/CH**Trade name (07G)**PROECO HE 801-46
PANOLIN HLP SYNTH 46**ZF approval number**ZF001711
ZF000592

Lubricant class 07H

Hydraulic oil HLP/HVLP in accordance with DIN 51524-2/-3

Viscosity grades: ISO VG 46 / 68 / 100

Base oil API Group 1 / 2 / 3 / 4

Note:

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