



Industrial Technology

**Transmissions for off-road equipment
(construction machinery, special vehicles, lift truck)**

List of lubricants TE-ML 03

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The list of lubricants TE-ML 03, **edition 01.04.2024** 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

1. Approved lubricant classes

Product group	Lubricant classes for service fills ⁽¹⁾
WG WG 80, 81, 83, 85, 86 WG 92, 98, 100 WG 120, 121, 150, 151, 158 WG 180, 181, 200, 201 WG 250, 251 WG 65 HN 500 PW 45H ERGOPOWER WG 110	<p style="text-align: center;">03A, 03E, 03G, 03H, 03K</p> <p style="text-align: center;">only at ambient temperatures below - 10°C: 03D, 03F</p> <p style="text-align: center;">Special approvals after consultation with ZF.</p>
ERGOPOWER WG 115, 116, 130, 131, 160, 161, 171, 190, 191, 210, 211, 230, 260, 261, 310, 311 BASICPOWER BP 190, 210, 230	<p style="text-align: center;">03A, 03B, 03C, 03D, 03E ⁽²⁾, 03G, 03H, 03K</p> <p style="text-align: center;">only at ambient temperatures below - 10°C: 03F</p>
ERGOPOWER L2 EP 320, 370, 420, 470, 520	<p style="text-align: center;">03A, 03B, 03C, 03H, 03K</p>
ERGOPOWER L2 (generation A) EP 320 A, 370 A, 420 A, 470 A, 520 A, 520 R	<p style="text-align: center;">03H, 03M</p>
WG 90, WG 94	<p style="text-align: center;">03A, 03E, 03G, 03H, 03K</p> <p style="text-align: center;">only at ambient temperatures below - 30°C: 03D, 03F</p>
WG 92 S4	<p style="text-align: center;">03A, 03K</p> <p style="text-align: center;">JOHN DEERE, Waterloo/USA: HY-GARD</p> <p style="text-align: center;">only at ambient temperatures below - 10°C: 03F</p>
cPOWER CP 190, 210, 230, 260, 290, 310, 330	<p style="text-align: center;">03G, 03L</p> <p style="text-align: center;">only at ambient temperatures below - 20°C: 03F</p>
Transfer box TB 92C-430, TB 92-I 3, TB 92-I 4, TB 98-I 4	<p style="text-align: center;">03E, 03G, 03H</p>

2. Oil and filter change intervals

2.1 Initial change interval

Lubricant class	03A, 03B, 03C, 03D, 03E, 03F, 03H, 03K	03G	03L	03M
Application class	Oil and filter change after [h]			
1	100-500 h	100-500 h	-	-
2	100-500 h **)	100-500 h **)	-	-
3	-	2000 h *)	2000 h *)	-
4	Filter only: 100-500 h	-	-	Filter only: 100-500 h

2.2 Subsequent change interval

Lubricant class	03A, 03B, 03C, 03D, 03E, 03F, 03H, 03K	03G	03L	03M
Application class	Oil and filter change interval [h]			
1	2000 h	2000 h	-	-
2	1500 h	1500 h	-	-
3	-	2000 h *)	2000 h *)	-
4	1000 h	-	-	Filter: 2000 h Oil: 4000 h

*) For the full flow filter (filter element next to transmission control) the oil filter change interval is 2000 h and for the hydrostatic filter (filter element next to hydrostatic hood) the oil filter change interval is 6000 h

**) For product group WG, the first change (oil and filter) must take place at 100 h.

The oil filter must also be replaced with every oil change. Only original ZF High Performance filters are permitted.

3. Application class

Application class	Examples of applications
1	- ERGOPOWER, BASICPOWER, 2WG 94, 3WG 94
2	- WG, 4WG 90/94, 5WG 94, WG 92 S4, Transfer box
3	- cPOWER
4	- ERGOPOWER L2, ERGOPOWER L2 (generation A)

4. Low temperatures limits

Lubricant classes	Oil type / viscosity grades	Use at outside temperatures above		
		WG / WG 92 S4 / Transfer box	ERGOPOWER BASICPOWER WG 90 / WG 94 ERGOPOWER L2	cPOWER
03D, 03M	- ATF	- 30°C	- 40°C	-
03F	- UTTO in accordance with JDM J20D / John Deere Low Viscosity Hy-Gard	- 30°C	- 40°C	- 40°C
03E, 03G, 03H, 03L	- UTTO	- 20°C	- 30°C	- 20°C
03K	- SAE 0W-30, 0W-40	- 30°C	- 40°C	-
03B, 03C, 03K	- SAE 5W-30, 5W-40	- 25°C	- 35°C	-
03A, 03B, 03C, 03K	- SAE 10W, 10W-30, 10W-40	- 20°C	- 30°C	-
03A, 03C, 03K	- SAE 15W-30, 15W-40	- 15°C	- 25°C	-
03A, 03C, 03K	- SAE 20W-20, 20W40	- 10°C	- 20°C	-
03A, 03C, 03K	- SAE 30	- 5°C	- 10°C	-

5. Explanation of footnotes and comments

- (1) **Refer to the following pages for approved commercial products, oil change intervals and low temperature limits.**
- (2) The products marked with (*) in the lubricant class 03E must not be used for John Deere wheel loaders.

A lithium saponified multipurpose grease of NLGI class 2 which is mixable with mineral oil is to be used at greasing points (grease code KP2K-30 in acc. with DIN 51825 or ISO-L-XCCHB2 in accordance with ISO 6743-9).

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.

6. Lubricant classes and approved trade products

Lubricant class 03A

Engine oil

(API CD/CE/CF-4/CF/CG-4/CH-4/CI-4/SF/SG/SH/SJ/SL or ACEA, categories A, B, E)

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

Base oil API Group 1 / 2 / 3

Note:

All engine oils which satisfy the above specifications may be used. There will be no product listing.

Oils of the API CI-4 Plus, CJ-4, CK-4, SM, or ACEA specification, category E9 (also in combination with the above mentioned specifications) are not permitted for this lubricant class. Oils of these specifications are listed in the 03K lubricant class.

Lubricant class 03B

Engine oil

(API CD/CE/CF-4/CF/CG-4/CH-4/CI-4/SF/SG/SH/SJ/SL or ACEA, categories A, B, E)

Viscosity grades: SAE 10W / 5W-30 / 5W-40

Oils of the API CI-4 Plus, CJ-4, CK-4, SM, or ACEA specification, category E9 (also in combination with the above mentioned specifications) are not permitted for this lubricant class. Oils of these specifications are listed in the 03K lubricant class.

Manufacturer (03B)

FUCHS PETROLUB SE, MANNHEIM/DE
 GS CALTEX CORPORATION, SEOUL/KR
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 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

Trade name (03B)

FUCHS TITAN UNIVERSAL HD SAE 10W
 DOOSAN DX 10W
 Q8 T 400 SAE 10W
 Q8 T 520 SAE 10W
 URANIA C 10W (SAE 10W)
 AMBRA SUPER 10 (SAE 10W)
 AKCELA ENGINE OIL 10 (SAE 10W)
 ARBOR SUPER 10 (SAE 10W)

ZF approval number

ZF002013
 ZF000619
 ZF000113
 ZF000119
 ZF000480
 ZF000610
 ZF000611
 ZF000612

Manufacturer (03C)

SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 TEXSA DO BRASIL LTDA, UMUARAMA/PR/BR
 TEXSA DO BRASIL LTDA, UMUARAMA/PR/BR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 VALVOLINE EUROPE, DORDRECHT/NL
 VALVOLINE EUROPE, DORDRECHT/NL
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE

Trade name (03C)

SRS GETRIEBEFLUID ZFC
 SRS WIOLIN 410
 SRS WIOLIN 430
 TEXSA TAC-4 30
 MONTANA DYNAMIC HYDROTORK 4 30
 TOTAL DYNATRANS ACX 10W
 TOTAL DYNATRANS ACX 30
 VALVOLINE DT TRANSMISSION OIL SAE 10W
 VALVOLINE DT TRANSMISSION OIL SAE 30
 WOLF TDTO SAE 10W
 WOLF TRACTOFLUID 500

ZF approval number

ZF000584
 ZF001931
 ZF001932
 ZF001921
 ZF003668
 ZF002216
 ZF002217
 ZF008294
 ZF008295
 ZF003582
 ZF003583

Lubricant class 03D**Automatic Transmission Fluids (ATF)****Manufacturer (03D)**

ACPA, ALEXANDRIA/EG
 ADDINOL LUBE OIL GMBH, LEUNA/DE
 ADDINOL LUBE OIL GMBH, LEUNA/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
 AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 CEPESA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CEPESA 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
 COMERCIAL ROSHFRANS, S.A. DE C.V., MEXICO, D.F./MX
 ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUŠEVAC/RS
 ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 HILL CORPORATION, SHYMKENT/KZ
 INA MAZIVA LTD., ZAGREB/HR
 INA MAZIVA LTD., ZAGREB/HR
 INA MAZIVA LTD., ZAGREB/HR
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE
 LIQUI MOLY GMBH, ULM/DE
 LIQUI MOLY GMBH, ULM/DE
 LIQUI MOLY GMBH, ULM/DE
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE
 MOL-LUB KFT, ALMASFUZITO/HU
 MOL-LUB KFT, ALMASFUZITO/HU
 ORLEN S.A., GDANSK/PL
 OY TEBOIL AB, HELSINKI/FI
 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
 PETROL OFISI A.S., ISTANBUL/TR
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SPECOL SP. Z O.O., CHORZOW/PL
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 VALVOLINE GLOBAL PRODUCTS, LEXINGTON/US
 VIBRA ENERGIA S.A., DUQUE DE CAXIAS/BR
 ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE

Trade name (03D)

ACPA DEX-IIIH
 ADDINOL ATF XN 2
 ADDINOL ATF XN 3
 AVISTA PEER EVO ATF 3000
 AVISTA PEER EVO ATF 2000
 TECTROL ATF 3000
 TECTROL ATF 4000
 CEPESA ATF 3000 S
 CEPESA ATF 2000S
 TEXAMATIC 4291
 DELO SYN ATF HD
 HAVOLINE MULTI-VEHICLE ATF
 ATF ALLPOWER MULTIVEHICULOS
 VALVOLINE HEAVY DUTY ATF D-II
 ENI ROTRA ATF II E
 MOBIL ATF 320
 MOBIL ATF 320
 FUCHS TITAN ATF 4000
 FUCHS TITAN ATF 4000
 FASTROL ATF 3
 INA ATF SUPER
 INA ATF DX IID
 INA ATF DX IIH
 Q8 AUTO Z3D
 LIEBHERR HYDRAULIC-GEAR ATF
 LIQUI MOLY TOP TEC ATF 1100
 LIQUI MOLY MARINE ATF
 LIQUI MOLY ATF III
 MEGOL TRANSMISSION-FLUID ATF III
 MOL ATF SYNT 3H
 MOL ATF SYNT
 LOTOS ATF SUPER III G
 TEBOIL FLUID E
 AUXON II E
 ATF XT III FLUID
 DURADRIVE HD SYNTHETIC BLEND ATF
 ATF DX-3
 PETRONAS TUTELA ATF 500 HD
 PETRONAS TUTELA ATF 500 HD
 REPSOL MATIC III
 REPSOL AUTOMATOR ATF III
 SPIRAX S4 ATF HDX
 SHELL SPIRAX S2 ATF AX
 SINOPEC GREATWALL ATF HD
 HIPOSPEC ATF IID
 FLUIDMATIC D2
 ELFMATIC D2
 FLUIDMATIC D2
 ELFMATIC D2
 SYN GARD™ ATF ES
 LUBRAX ATF HD
 DIVINOL ATF SPEZIAL R

ZF approval number

ZF004823
 ZF003702
 ZF004910
 ZF004774
 ZF004775
 ZF004798
 ZF004799
 ZF000386
 ZF002040
 ZF001574
 ZF001664
 ZF001714
 ZF000385
 ZF008168
 ZF000951
 ZF000043
 ZF006088
 ZF000728
 ZF006024
 ZF003429
 ZF000248
 ZF000392
 ZF002314
 ZF003726
 ZF002119
 ZF004926
 ZF004927
 ZF004928
 ZF004922
 ZF001895
 ZF004917
 ZF000620
 ZF003321
 ZF000048
 ZF001177
 ZF004790
 ZF001667
 ZF003635
 ZF004757
 ZF000318
 ZF008281
 ZF001812
 ZF005982
 ZF003348
 ZF003354
 ZF006067
 ZF006068
 ZF006069
 ZF010594
 ZF003710
 ZF002120
 ZF009444

Manufacturer (03E)

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
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SINENG PETROCHEMICAL CO.,LTD., LIUZHOU, GUANGXI/CN
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR
 UNIL OPAL, SAUMUR/FR
 VALVOLINE EUROPE, DORDRECHT/NL
 VALVOLINE EUROPE, DORDRECHT/NL
 VIBRA ENERGIA S.A., DUQUE DE CAXIAS/BR
 VIBRA ENERGIA S.A., DUQUE DE CAXIAS/BR
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE

Trade name (03E)

SHELL SPIRAX S4 TXM
 SHELL SPIRAX S4 TXM
 SHELL SPIRAX S4 TXM
 SHELL SPIRAX S6 TXME
 SHELL SPIRAX S4 TXM
 SHELL SPIRAX S4 TXM
 SHELL SPIRAX S4 TXM
 SHELL SPIRAX S4 TXM
 SHELL SPIRAX S4 TXM-I
 SEANON DEDICATED TRANSMISSION OIL 10W-30
 SINOPEC GREATWALL UTTO
 SINOPEC UTTO
 SRS HYDROFLUID A
 TOTAL DYNATRANS MPV
 ELF TRACTELF BF 16
 TOTAL DYNATRANS MPWB
 TOTAL DYNATRANS MPX
 TRACTELF NG
 FLUID G2 VARIO
 UNITRAC 80W
 NESTE GEAR UTTO
 LUBRAX UNITRACTOR SAE 10W-30
 LUBRAX UNITRACTOR 10W-30
 WOLF TRACTOFLUID 170 BM

ZF approval number

ZF000357
 ZF000358
 ZF000359
 ZF001295
 ZF001613
 ZF003325
 ZF005938
 ZF008286
 ZF001959
 ZF000105
 ZF004916
 ZF004867
 ZF000540
 ZF001317
 ZF001539
 ZF002222
 ZF008262
 ZF009470
 ZF002041
 ZF003473
 ZF001366
 ZF010660
 ZF005951

Lubricant class 03F

Universal axle and transmission oil in accordance with JDM J20D
use at outside temperatures below -10°C

Manufacturer (03F)

JOHN DEERE, MOLINE, ILLINOIS/US
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB

Trade name (03F)

JOHN DEERE LOW VISCOSITY HY-GARD
SHELL SPIRAX S3 TLV
SHELL SPIRAX S3 TLV

ZF approval number

ZF001498
ZF000365
ZF001848

Lubricant class 03G

Premium universal axle and transmission oil

Manufacturer (03G)

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

Trade name (03G)

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

ZF approval number

ZF002162
ZF002087
ZF005995

Lubricant class 03H

Biodegradable lubricants

Environmental label RAL-UZ 79 (Blauer Engel), VAMIL-regeling

Viscosity grade: SAE 75W-80, 10W-30

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 (03H)

PANOLIN DISTRIBUTION AG, MADETSWIL/CH

Trade name (03H)

PANOLIN BIOFLUID ZFH 10W/30

ZF approval number

ZF000391

Lubricant class 03K

Engine oil

(API CI-4 Plus/CJ-4/CK-4/SM or ACEA, category E9)

Viscosity grades: SAE 0W-30 / 0W-40 / 5W-30 / 5W-40 / 10W / 20W-20 / 30 / 10W-30 / 10W-40 / 15W-30 / 15W-40 / 20W-40

Manufacturer (03K)

AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE
CHEVRON LUBRICANTS, SAN RAMON, CA/US
JOHN DEERE, MOLINE, ILLINOIS/US
JOHN DEERE, MOLINE, ILLINOIS/US
JOHN DEERE, MOLINE, ILLINOIS/US

Trade name (03K)

AVISTA PATH EVO PRIME E9 SAE 15W-40
URSA ULTRA LE 10W-30
JOHN DEERE PLUS 50 II 15W-40
JOHN DEERE PLUS 50 II 10W-30
JOHN DEERE PLUS 50 II 0W-40

ZF approval number

ZF004822
ZF001550
ZF001395
ZF001486
ZF001487

Lubricant class 03M

Automatic Transmission Fluids (ATF)

Manufacturer (03M)

BASF SE, LUDWIGSHAFEN/DE
CASTROL LTD, LONDON/GB
CASTROL LTD, LONDON/GB
EXXONMOBIL CORPORATION, HOUSTON, TX/US
JOHN DEERE, MOLINE, ILLINOIS/US

Trade name (03M)

EMGARD 2805
CASTROL TRANSYND
TES-295 SYN TRANSMISSION FLUID
MOBIL DELVAC 1 ATF
HD SYNTHETIC TRANSMISSION FLUID

ZF approval number

ZF003370
ZF000226
ZF002298
ZF001827
ZF004851