



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

List of lubricants TE-ML 03

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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 WG 180, 181, 200, 201 WG 250, 251 WG 65 HN 500 PW 45H ERGOPOWER WG 110 | 03A, 03E, 03G, 03H, 03K only at ambient temperatures below - 10°C: 03D, 03F Special approvals after consultation with ZF. |
| ERGOPOWER WG 115, 116, 130, 131, 160, 161, 171, 190, 191, 210, 211, 260, 261, 310, 311 | 03A, 03B, 03C, 03D, 03E, 03G, 03H, 03K only at ambient temperatures below - 10°C: 03F |
| ERGOPOWER EP 320, 370, 420, 470, 520 | 03A, 03B, 03C, 03H, 03K |
| WG 90, WG 94 (Separated oil supply transmission and axle) | 03A, 03E, 03G, 03H, 03K only at ambient temperatures below - 30°C: 03D, 03F |
| WG 94 + MT-F 3065 / MT-F 3070 (Shared oil supply transmission and axle) | 03E, 03G |
| WG 92 S4 | 03A, 03K JOHN DEERE, Waterloo/USA: HY-GARD only at ambient temperatures below - 10°C: 03F |
| cPOWER CP 190, 210, 230, 260, 290, 310, 330 | 03G, 03L only at ambient temperatures below - 20°C: 03F |
| Transfer box TB92-432, TB92C-430, TB92-280 I3, TB92-430 I4 | 03E, 03G, 03H |

The list of lubricants TE-ML 03, **edition 01-JUL-16** 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. Oil change intervals

| Lubricant class | 03A, 03B, 03C, 03D, 03E, 03F, 03H, 03K, 03L | 03G | 03L |
|-----------------|--|--------|--------|
| Load class | Oil change interval | | |
| 1 | 1500 h | 2000 h | - |
| 2 | 1000 h | 1500 h | - |
| 3 | - | 2000 h | 2000 h |

3. Load classes

| Load class | Examples of applications |
|------------|---|
| 1 | - normal operation (except cPOWER) |
| 2 | - frequent reversing/retarder operation (except cPOWER) |
| 3 | - cPOWER |

4. Low temperatures limits

| Lubricant classes | Oil type / viscosity grades | Use at outside temperatures above | | |
|--------------------|--|-----------------------------------|----------------------------|--------|
| | | WG / WG 92 S4 / TB | ERGOPOWER WG 90 / WG 94 | cPOWER |
| 03D | - 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.

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, 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, 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

Lubricant class 03C**Off highway lubricants**

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

Manufacturer (03C)

ADDINOL LUBE OIL GMBH, LEUNA/DE
 ARAL AG, BOCHUM/DE
 ARAL AG, BOCHUM/DE
 AVISTA OIL REFINING & TRADING DEUTSCHLAN, UETZE/DE
 AVISTA OIL REFINING & TRADING DEUTSCHLAN, UETZE/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 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
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CATERPILLAR, INC., MOSSVILLE/US
 CATERPILLAR, INC., MOSSVILLE/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
 EUROL B.V., NJIVERDAL/NL
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FABRIKA MAZIVA FAM AD, KRUŠEVAC/RS
 FABRIKA MAZIVA FAM AD, KRUŠEVAC/RS
 FUCHS PETROLUB SE, MANNHEIM/DE
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU
 INA MAZIVA LTD., ZAGREB/HR
 INA MAZIVA LTD., ZAGREB/HR
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 MOL-LUB KFT, ALMASFUZITO/HU
 MOL-LUB KFT, ALMASFUZITO/HU
 NIS AD, NOVI SAD/RS
 NIS AD, NOVI SAD/RS
 PETROGAL S.A., LISBOA/PT
 PETROGAL S.A., LISBOA/PT
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PHI OIL GMBH, ST. GEORGEN/AT
 PRISTA OIL HOLDING EAD, RUŠE/BG
 PRISTA OIL HOLDING EAD, RUŠE/BG
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE
 RN-LUBRICANTS, LLC, MOSCOW/RU
 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
 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
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 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 (03C)

ADDINOL FLUID TO-4 SAE 30
 ARAL FLUID TO-4 10W
 ARAL FLUID TO-4 30
 AVISTA SPECIAL GEAR OIL TO-4 SAE 30
 AVISTA SPECIAL GEAR OIL TO-4 SAE 10W
 TECTROL UTTO-TO SAE 30
 BP AUTRAN 4 10
 BP AUTRAN 4 30
 BP AUTRAN TO 410
 BP AUTRAN TO 430
 GEAR OIL MEGA TO-4 SAE 10W
 GEAR OIL MEGA TO-4 SAE 30
 CASTROL TRANSMAX OFFROAD 30
 CASTROL TFC 410
 CASTROL TRANSMAX OFFROAD 10
 CASTROL TFC 410
 CASTROL TFC 430
 CAT TDTO SAE 10W
 CAT TDTO SAE 30
 TORQUE FLUID 414
 TORQUE FLUID 434
 TEXTRAN HD 10W
 TEXTRAN HD 30
 DELO TORQFORCE SAE 30
 DELO TORQFORCE SAE10W
 URSA TORQFORCE SAE 30
 URSA TORQFORCE SAE10W
 EUROL POWERSHIFT LSA 10W
 MOBILTRANS HD 10W
 MOBILTRANS HD 30
 TRANSHIDO TO-4 SAE 10W
 TRANSHIDO TO-4 SAE 30
 FUCHS TITAN UTTO TO-4 SAE 30
 G-SPECIAL TO-4 10W
 G-SPECIAL TO-4 30
 INA TRANSMATIK 30
 INA TRANSMATIK 10W
 Q8 TO-4 FLUID SAE 10W
 Q8 TO-4 FLUID SAE 30
 MOL TRANSFLUID TO 4 SAE 30
 MOL TRANSFLUID TO-4 10W
 NISOTEC TRANSFLUID TO-4 SAE 30
 NISOTEC TRANSFLUID TO-4 SAE10W
 GALP MULTITRANS 10W
 GALP MULTITRANS 30
 PETRONAS CATOIL 10W (SAE 10W)
 KOMCAT SILVER
 PRISTA TO-4 10W
 PRISTA TO-4 30
 RAVENOL CATOEL TO-4 SAE 10W
 RAVENOL CATOEL TO-4 SAE 30
 TNK CATRAN SAE 10W
 TNK CATRAN SAE 30
 SHELL SPIRAX S4 CX 30
 SHELL SPIRAX S4 CX 10 W
 SHELL SPIRAX S4 CX 30
 SHELL SPIRAX S4 CX 10 W
 SHELL SPIRAX S4 CX 30
 SHELL SPIRAX S6 CXME
 SINOPEC PREMIUM HD 30 TRANSMISSION OIL
 SRS GETRIEBFLUID ZFC
 SRS WIOLIN 410
 SRS WIOLIN 430
 TEXSA TAC-4 30
 TOTAL DYNATRANS AC 10W
 TOTAL DYNATRANS AC 30

ZF approval number

ZF000511
 ZF000148
 ZF000149
 ZF002033
 ZF002034
 ZF001165
 ZF000192
 ZF001000
 ZF001402
 ZF001405
 ZF001739
 ZF001740
 ZF000267
 ZF000298
 ZF000300
 ZF000996
 ZF000999
 ZF000868
 ZF000869
 ZF000797
 ZF000798
 ZF000817
 ZF000818
 ZF001903
 ZF001904
 ZF001905
 ZF001906
 ZF001917
 ZF000034
 ZF000035
 ZF001107
 ZF001108
 ZF000709
 ZF000238
 ZF000239
 ZF000401
 ZF000403
 ZF000180
 ZF000181
 ZF002010
 ZF002011
 ZF000329
 ZF000330
 ZF000214
 ZF002015
 ZF001426
 ZF001077
 ZF000883
 ZF000884
 ZF001851
 ZF001852
 ZF000493
 ZF000496
 ZF000005
 ZF000402
 ZF000969
 ZF000970
 ZF001209
 ZF001790
 ZF001088
 ZF000584
 ZF001931
 ZF001932
 ZF001921
 ZF001820
 ZF001821

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

CEPSA COMERCIAL PETRÓLEO, MADRID/ES
 CEPSA COMERCIAL PETRÓLEO, 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
 COMERCIAL ROSHFRANS, S.A. DE C.V., MEXICO, D.F./MX
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU
 GRUPA LOTOS S.A., GDANSK/PL
 INA MAZIVA LTD., ZAGREB/HR
 INA MAZIVA LTD., ZAGREB/HR
 MOL-LUB KFT, ALMASFUZITO/HU
 OMV PETROL OFISI A.S., ISTANBUL/TR
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB

Trade name (03D)

CEPSA ATF 3000 S
 CEPSA ATF 2000S
 HAVOLINE ATF MERCON V
 SYNTHETIC AUTOMATIC TRANSMISSION FLUID HEAVY DUTY
 TEXAMATIC 4291
 DELO SYN ATF HD
 HAVOLINE MULTI-VEHICLE ATF
 ATF ALLPOWER MULTIVEHICULOS
 MOBIL ATF 320
 G-BOX ATF DXII
 LOTOS ATF SUPER III G
 INA ATF SUPER
 INA ATF DX IID
 MOL ATF SYNT 3H
 ATF DX-3
 AUXON II E
 ATF XT III FLUID
 HEAVY DUTY SYNTHETIC BLEND ATF
 REPSOL MATIC III
 REPSOL MATIC LD ATF
 SPIRAX S4 ATF HDX

ZF approval number

ZF000386
 ZF002040
 ZF000101
 ZF001219
 ZF001574
 ZF001664
 ZF001714
 ZF000385
 ZF000043
 ZF001955
 ZF000620
 ZF000248
 ZF000392
 ZF001895
 ZF001667
 ZF000048
 ZF001177
 ZF001236
 ZF000318
 ZF001751
 ZF001812

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
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
SHELL SPIRAX S3 TLV
SHELL SPIRAX S3 TLV

ZF approval number

ZF001498
ZF000364
ZF000365
ZF001709
ZF001848

Lubricant class 03G

Premium universal axle and transmission oil

Manufacturer (03G)

ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (03G)

ZF-POWERFLUID PLUS
ZF-POWERFLUID C-PLUS

ZF approval number

ZF001021
ZF002087

Lubricant class 03H

Biodegradable lubricants

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

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 (03H)

PANOLIN 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/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)

CHEVRON LUBRICANTS, SAN RAMON, CA/US
CHEVRON LUBRICANTS, SAN RAMON, CA/US
JOHN DEERE, MOLINE, ILLINOIS/US
JOHN DEERE, MOLINE, ILLINOIS/US
JOHN DEERE, MOLINE, ILLINOIS/US

Trade name (03K)

DELO 400 XLE SYNBLEND SAE 10W-30
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

ZF001536
ZF001550
ZF001395
ZF001486
ZF001487

Lubricant class 03L

Universal axle and transmission oil

Manufacturer (03L)

CHEVRON LUBRICANTS, SAN RAMON, CA/US
JOHN DEERE, MOLINE, ILLINOIS/US
LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE

Trade name (03L)

TEXTRAN TDH PREMIUM
JOHN DEERE HY-GARD
LIEBHERR GEAR MF 80W

ZF approval number

ZF000820
ZF001223
ZF001856