

**Marine transmissions****List of lubricants TE-ML 04****Table of contents****Page**

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1. Approved lubricant classes

Product groups	Lubricant classes for service fills ⁽¹⁾
ZF 4 to ZF 115 with all derived variants M, A, IV, C, TS, ATS, IVTS	04D
ZF 220 to ZF 60500 with all derived variants A, V, IV, C, U, D, NR, NR2, NR2H, NR2B, TS, ATS, VTS, IVTS	04A / 04B / 04C
ZF 23560 to ZF 23860 with all derived variants NR, C, D	04B / 04C
ZF W220 to ZF W93100 with all derived variants C, NR, NC, DS, NR2H	04A / 04B / 04C
ZF W93300 and ZF W103100 with all derived variants	04E / 04F
BW 5 to BW 5300 with all derived variants	04A / 04B / 04C
BW 2356 to BW 2386	04B / 04C
HBW 35 to HBW 630 HSW 90 to HSW 110 HSW 125 to HSW 800 with all derived variants	04D
IRM 40 to IRM 50	04D
IRM 220 to IRM 350	04A / 04B / 04C
ZF SD 10, SD 12	04P
SeaRex 100s, 120s, 140s, 160s	04A / 04B / 04C
ZF AT 400, 2000 to 8000 with all derived variants WM, RT, DM, SM ZF TT 400, 1000 to 8000 ZF SDT 2000 to 6000	Gear box: 04H / 04M Power pack: 04K ⁽²⁾
ZF TT 4000 CP, 5000 CP	Gear box and Power pack: 04H ⁽²⁾
PPD, PPS	04G
CPP	04K / 04L
Stern Tubes	04A / 04B / 04H / 04K / 04L

The list of lubricants TE-ML 04, **edition 20.05.2015** 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.

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D-88038 Friedrichshafen
phone: + 49 7541 77 7181
email: lubricant3@zf.com

2. Explanation of footnotes and comments

- (1) **Refer to the following pages for approved commercial products.**
- (2) For further information (approved greases, oil fill quantities, evaluation of oil condition, etc.) see "Lubricants equivalents list P0166 ZF Krimpen".

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

3. Lubricant classes and approved trade products

Lubricant class 04A

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 grade: SAE 30, also SAE 40 in hot countries or when oil sump temperatures are above +80°C

Base oil API Group 1 / 2 / 3 / 4

Note:

1. All trade products which satisfy the above specifications may be used. There will be no product listing.
2. For transmissions which are classified according to DNV, fluids of the class 04A may not be used. Instead of this fluids according to classes 04B or 04C may be used.

Lubricant class 04B

Engine oil

Viscosity grade: SAE 30, also SAE 40 in hot countries or when oil sump temperatures are above +80°C

Manufacturer (04B)	Trade name (04B)	ZF approval number
ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL TURBO DIESEL MD 305 SAE 30	ZF000624
ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL TURBO DIESEL MD 405 SAE 40	ZF000625
CHEVRON LUBRICANTS, SAN RAMON, CA/US	URSA TRANS SAE 40	ZF000821
CJSC "ZAVOD IMENI SHAUMYANA", SAINT-PETERSBURG/RU	M-14D2CE (SAE 40)	ZF001095
EXXONMOBIL CORPORATION, FAIRFAX, VA/US	MOBIL DELVAC 1630 SAE30	ZF000036
EXXONMOBIL CORPORATION, FAIRFAX, VA/US	MOBIL DELVAC 1640 SAE40	ZF000037
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN UNIVERSAL HD SAE 30 ZF	ZF000719
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN UNIVERSAL HD SAE 30	ZF001189
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN UNIVERSAL HD SAE 40	ZF001190
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF SUPER DUTY LE 30	ZF001147
IGOL FRANCE, AMIENS/FR	ATF 700	ZF001833
INA MAZIVA LTD., ZAGREB/HR	INA GORGONELA S 30	ZF001173
INA MAZIVA LTD., ZAGREB/HR	INA SUPER 3 30	ZF001468
IPIRANGA PRODUTOS DE PETROLEO SA, RIO DE JANEIRO/BR	IPIRANGA ULTRAGEAR 40	ZF001340
IPIRANGA PRODUTOS DE PETROLEO SA, RIO DE JANEIRO/BR	IPIRANGA ULTRAGEAR ZF 40	ZF001764
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 MOZART DP SAE 30	ZF000095
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 MOZART DP SAE 40	ZF000096
PANOLIN AG, MADETSWIL/CH	PANOLIN EXTRA DIESEL 30	ZF000393
PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR	LUBRAX TURBO SAE 30	ZF000581
PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR	LUBRAX TURBO SAE 40	ZF000582
PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR	LUBRAX TRM 5 HD SAE 30	ZF001174
PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR	LUBRAX TRM 5 HD SAE 40	ZF001175
PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR	LUBRAX TRM 40	ZF001742
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL RIMULA R3+ 30	ZF001618
TOTAL LUBRIFIANTS S.A., NANTERRE/FR	TOTAL CAPRANO TD 30	ZF000533
TOTAL LUBRIFIANTS S.A., NANTERRE/FR	TOTAL CAPRANO TD 40	ZF000534
TOTAL LUBRIFIANTS S.A., NANTERRE/FR	TOTAL CAPRANO TD 30	ZF000538
TOTAL LUBRIFIANTS S.A., NANTERRE/FR	TOTAL CAPRANO TD 40	ZF000539
TOTAL LUBRIFIANTS S.A., NANTERRE/FR	TOTAL RUBIA FP 40	ZF001153

Lubricant class 04C

Engine oil

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

Manufacturer (04C)

CHEVRON LUBRICANTS, SAN RAMON, CA/US
EXXONMOBIL CORPORATION, FAIRFAX, VA/US
EXXONMOBIL CORPORATION, FAIRFAX, VA/US
NOVA STILMOIL SPA, MODENA/IT
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
TOTAL LUBRIFIANTS S.A., NANTERRE/FR
TOTAL LUBRIFIANTS S.A., NANTERRE/FR
TOTAL LUBRIFIANTS S.A., NANTERRE/FR

Trade name (04C)

DELO 400 MULTIGRADE SAE 15W-40
MOBIL DELVAC 1 SHC 5W-40
MOBIL DELVAC XHP EXTRA 10W-40
ORION SUPER PLUS 15W40
SHELL SIRIUS 15W-40
SHELL RIMULA R3X 15W-40
SHELL RIMULA SUPER 15W-40
ROTELLA T3 15W-40
RIMULA R4L 15W-40 (CJ-4)
SHELL RIMULA R4 X 15W-40 (CI-4/E7/DH-1)
SHELL SIRIUS 15W-40
TOTAL CAPRANO TDI 15W-40
TOTAL CAPRANO TDH 15W-40
TOTAL CAPRANO TDI 15W-40

ZF approval number

ZF000649
ZF000606
ZF000770
ZF000920
ZF000436
ZF000437
ZF000967
ZF001026
ZF001027
ZF001482
ZF001484
ZF001256
ZF001535
ZF001791

Automatic Transmission Fluid (ATF)

ZF approval number

RS200 MOTOR OIL* PANTONIOU S.A., LAKKOMA/GR	ATF D-IIIG	ZF0004115
ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL ATF D II E	ZF000697
ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL ATF D II D	ZF000698
ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL ATF D III	ZF000699
ALEXANDRIA MINERAL OILS COMPANY, ALEXANDRIA/EG	AMOC POWER	ZF001702
ALEXANDRIA MINERAL OILS COMPANY, ALEXANDRIA/EG	AMOC POWER PLUS	ZF001703
ALLEGHENY PETROLEUM, WILMERDING, PA/US	ALTRA SHL EXTENDED DRAIN ZF 20C	ZF001756
AMALIE PETROQUIMICA, MADRID/ES	ATF DEXRON III	ZF001121
AMALIE PETROQUIMICA, MADRID/ES	ATF DEXRON II	ZF001128
AMSOIL, INC., SUPERIOR, WI/US	TORQUE-DRIVE SYNTHETIC ATF	ZF001841
ARAL AG, BOCHUM/DE	ARAL GETRIEBEÖL ATF LD	ZF000144
ARAL AG, BOCHUM/DE	ARAL GETRIEBEÖL ATF 55	ZF000146
ARAL AG, BOCHUM/DE	ARAL GETRIEBEÖL ATF 22	ZF000147
AVIA MINERALÖL-AG, MÜNCHEN/DE	AVIA FLUID ATF 92 S	ZF001066
BAYWA AG MÜNCHEN, MÜNCHEN/DE	TECTROL ATF 4000	ZF001166
BAYWA AG MÜNCHEN, MÜNCHEN/DE	TECTROL ATF 3000	ZF001204
BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR	LUBEX ATF-II	ZF001031
BP PLC., LONDON/GB	BP AUTRAN DX III	ZF000194
BP PLC., LONDON/GB	BP AUTRAN LTF	ZF000195
BP PLC., LONDON/GB	BP AUTRAN MBX	ZF000196
BP PLC., LONDON/GB	BP AUTRAN SYN 295	ZF000197
BUCHER AG LANGENTHAL, LANGENTHAL/CH	ATF SUPER	ZF000593
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX DEX III MULTIVEHICLE	ZF000220
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX Z	ZF000221
CASTROL LTD, LONDON/GB	CASTROL ATF DEX II MULTIVEHICLE	ZF000223
CASTROL LTD, LONDON/GB	CASTROL TRANSYND	ZF000226
CEPSA COMERCIAL PETRÓLEO, MADRID/ES	CEPSA ATF 3000 S	ZF000386
CEPSA COMERCIAL PETRÓLEO, MADRID/ES	CEPSA ATF 70	ZF000473
CEPSA COMERCIAL PETRÓLEO, MADRID/ES	CEPSA ATF 2000 S	ZF000670
CHEVRON LUBRICANTS, SAN RAMON, CA/US	HAVOLINE ATF MERCON V	ZF000101
CHEVRON LUBRICANTS, SAN RAMON, CA/US	TEXAMATIC B	ZF001202
CHEVRON LUBRICANTS, SAN RAMON, CA/US	SYNTHETIC AUTOMATIC TRANSMISSION FLUID HEAVY DUTY	ZF001219
CHEVRON LUBRICANTS, SAN RAMON, CA/US	TEXAMATIC 4291	ZF001574
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO SYN ATF HD	ZF001664
CHEVRON LUBRICANTS, SAN RAMON, CA/US	HAVOLINE MULTI-VEHICLE ATF	ZF001714
COMERCIAL ROSHFRANS, S.A. DE C.V., MEXICO, D.F./MX	ATF ALLPOWER MULTIVEHICULOS	ZF000385
DE OLIEBRON BV, ZWIJNDRECHT/NL	TOR ATF DMM	ZF001023
DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/DE	PENTOSIN ATF 1	ZF000734
DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/DE	PENTOSIN ATF IIIH	ZF000783
ENI S.P.A., ROME/IT	AGIP ATF II D	ZF000925
ENI S.P.A., ROME/IT	AGIP DEXRON III	ZF000927
EUROL B.V., NUIVERDAL/NL	EUROL ATF IIIF	ZF000387
EXOL LUBRICANTS LTD, WEDNESBURY/GB	AUTOTRANS ELC	ZF001685
EXXONMOBIL CORPORATION, FAIRFAX, VA/US	MOBIL ATF 220	ZF000033
EXXONMOBIL CORPORATION, FAIRFAX, VA/US	MOBIL ATF D 21065	ZF000038
EXXONMOBIL CORPORATION, FAIRFAX, VA/US	MOBIL ATF SHC	ZF000039
EXXONMOBIL CORPORATION, FAIRFAX, VA/US	MOBIL ATF 320	ZF000043
EXXONMOBIL CORPORATION, FAIRFAX, VA/US	MOBIL ATF LT 71141	ZF000044
EXXONMOBIL CORPORATION, FAIRFAX, VA/US	ESSO ATF D 2	ZF000669
EXXONMOBIL CORPORATION, FAIRFAX, VA/US	MOBIL DELVAC SYNTHETIC ATF	ZF001234
FABRIKA MAZIVA FAM AD, KRUSÉVAC/RS	MOBIL DELVAC 1 ATF	ZF001827
FUCHS PETROLUB SE, MANNHEIM/DE	ATF DII	ZF001187
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN ATF 5005	ZF000717
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN ATF 3000	ZF000720
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN ATF 4000	ZF000728
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN ATF 5500	ZF001797
GAZPROMNEFT-LUBRICANTS, MOSCOW/RU	G-BOX ATF DX II	ZF000240
GAZPROMNEFT-LUBRICANTS, MOSCOW/RU	G-BOX ATF DX III	ZF000242
GRUPA LOTOS S.A., GDANSK/PL	LOTOS ATF II D	ZF000362
GRUPA LOTOS S.A., GDANSK/PL	LOTOS ATF SUPER III G	ZF000620
GRUPA LOTOS S.A., GDANSK/PL	LOTOS ATF II D	ZF001043
GRUPA LOTOS S.A., GDANSK/PL	LOTOS ATF IIIG	ZF001093
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF ATF DX III H	ZF000078
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF ATF DX II	ZF001099
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF ATF PC	ZF001349
HARMS MINERALÖLE, PRISDORF/DE	OILFINO SPONTE ATF II	ZF000736
HARMS MINERALÖLE, PRISDORF/DE	OILFINO SPONTE ATF III	ZF000737
HI-TEC OILS, SMITHFIELD/AU	MULTITRANS PLUS ATF	ZF001669
HUILES BERLIET S.A., SAINT-PRIEST/FR	RTO STARMATIC 3	ZF001259
HUILES BERLIET S.A., SAINT-PRIEST/FR	RTO STARMATIC S3	ZF001579
INA MAZIVA LTD., ZAGREB/HR	INA ATF SUPER	ZF000248
INA MAZIVA LTD., ZAGREB/HR	INA ATF DX III	ZF000390
INA MAZIVA LTD., ZAGREB/HR	INA ATF DX IID	ZF000392
INA MAZIVA LTD., ZAGREB/HR	INA ATF EKSTRA	ZF000410
INGRAX INDUSTRIA E COMERCIO DE GRAXA S/A, DUQUE DE CAXIAS/BR	INAMATIC D-II PLUS	ZF000079
IPIRANGA PRODUTOS DE PETRÓLEO SA, RIO DE JANEIRO/BR	ISAMATIC V	ZF000896
KOCAK PETROL URUNLERI SAN.VE TIC.LTD.STI, KOCAELI/TR	SPEEDOL ATF DEXRON II	ZF000979
KOCAK PETROL URUNLERI SAN.VE TIC.LTD.STI, KOCAELI/TR	ATF DEXRON S III	ZF001388
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 AUTO 15 ED	ZF000071
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 AUTO 15	ZF000082
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 AUTO 20	ZF000083
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 AUTO 14	ZF000176
LUBRICATION ENGINEERS, INC., FORT WORTH, TEXAS/US	LE 1150	ZF001676
MOL-LUB KFT, ALMASFUZITO/HU	MOL ATF SYNT 3H	ZF000626
MOL-LUB KFT, ALMASFUZITO/HU	MOL ATF SYNT	ZF001151

ZF approval number

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Lubricant class 04E

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 grade: SAE 50

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 04F

Gear oil CLP

Viscosity grade: ISO VG 220

Manufacturer (04F)

CASTROL LTD, LONDON/GB
CHEVRON LUBRICANTS, SAN RAMON, CA/US
EXXONMOBIL CORPORATION, FAIRFAX, VA/US

Trade name (04F)

CASTROL ALPHASYN HG 220
MEROPA 220
MOBILGEAR 600 XP 220

ZF approval number

ZF001508
ZF000811
ZF000852

Lubricant class 04G

Gear oil in accordance with specification:

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

Viscosity grade: SAE 80W-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 04H

Gear oil CLP in accordance with DIN 51517-3

Viscosity grade (product groups in accordance with page 1):

- Stern Tubes: ISO VG 68 / 100 / 150 / 220 / 320
 - ZF AT, TT, SDT - Gear box L-Drive: ISO VG 100
 - ZF AT, TT, SDT - Gear box Z-Drive: ISO VG 150
 - ZF TT 4000 CP, 5000 CP - Gear box und Power pack: ISO VG 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.

Lubricant class 04K

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

Viscosity grade (product groups in accordance with page 1):

- CPP: ISO VG 32 / 46 / 68
- Stern Tubes: ISO VG 68 / 100 / 150 / 220 / 320
- ZF AT, TT, SDT - Power pack: ISO VG 46

Note:

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

Lubricant class 04L

Biodegradable oil

Viscosity grade (product groups in accordance with page 1):

- CPP: ISO VG 32 / 46 / 68
- Stern Tubes: ISO VG 68 / 100 / 150 / 220 / 320

Manufacturer (04L)

CASTROL LTD, LONDON/GB
TOTAL LUBRIFIANTS S.A., NANTERRE/FR
VICKERS & SONS LTD., LEEDS/GB

Trade name (04L)

BIOSTAT
BIOHYDRAN TMP
HYDROX BIO

Lubricant class 04M

Biodegradable oil

Viscosity grade (product groups in accordance with page 1):

- ZF AT, TT, SDT - Gear box L-Drive: ISO VG 100

- ZF AT, TT, SDT - Gear box Z-Drive: ISO VG 150

Manufacturer (04M)

KLÜBER LUBRICATION, MUNICH/DE

KLÜBER LUBRICATION, MUNICH/DE

SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB

SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB

Trade name (04M)

KLÜBERBIO EG 2-100

KLÜBERBIO EG 2-150

SHELL NATURELLE S4 GEAR FLUID 100

SHELL NATURELLE S4 GEAR FLUID 150

ZF approval number

ZF001732

ZF001733

ZF001792

ZF001793

Lubricant class 04P

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 grade: SAE 15W-40

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.