



**Manual ZF transmissions for trucks
with "TE-ML 01" lable on the type plate**

List of lubricants TE-ML 01

Table of contents	Page
1. Approved lubricant classes	1
2. Oil and filter change intervals (filter replacement affects only transmission with Intarder or WSK [torque converter clutch])	2
3. Low temperatures limits	2
4. Explanation of footnotes and comments	3
5. Lubricant classes and approved trade products	4

1. Approved lubricant classes

Product groups trucks Note: Instead of the "0" as the last figure, there may also be a: 2;3;4;5. (Example: 16S2223)	Lubricant classes	
	First fill ⁽³⁾	Service fill ⁽⁴⁾
Ecomid without Intarder 8S1110, 9S1110, 9S1310, 9S1510	ZF-Ecofluid M 01E	ZF-Ecofluid M 01E / 01L
Ecomid with Intarder 8S1111, 9S1111, 9S1311	ZF-Ecofluid M 01E	ZF-Ecofluid M 01E / 01L
Ecosplit without Intarder 8S151, 16S151, 8S181, 16S181, 16S221,16S251 8S1620, 16S1620, 8S1820, 16S1820, 8S1920, 16S1920, 16S2020, 8S2220, 16S2220, 16S2520, 16S2720 16S1580, 16S1680, 16S2180, 16S2280 16S231, 16S2320, 16S2330 12S2130, 12S2330, 12S2830 8S1630, 16S1630, 8S1830, 16S1830, 8S1930, 16S1930, 16S2030, 8S2230, 16S2230, 16S2530, 16S2733	ZF-Ecofluid M 01E	ZF-Ecofluid M 01E / 01L
Ecosplit with Intarder 8S1511T, 16S1511T, 8S1811T, 16S1811T, 16S2211T, 16S2511T 8S1621, 16S1621, 8S1821, 16S1821, 8S1921, 16S1921, 16S2021, 8S2221, 16S2221, 16S2521, 16S2721 16S1581, 16S1681, 16S2181, 16S2281 16S2311T, 16S2321, 12S2331 12S2131, 12S2331, 12S2831 16S1631, 8S1831, 16S1831, 8S1931, 16S1931,16S2031, 8S2231, 16S2231, 16S2531, 16S2731	ZF-Ecofluid M 01E	ZF-Ecofluid M 01E / 01L

<p>The list of lubricants TE-ML 01, edition 01.10.2018 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.</p>	<p>ZF Friedrichshafen AG D-88038 Friedrichshafen www.zf.com/contact</p>
--	--


2. Oil and filter change intervals (filter replacement affects only transmission with Intarder or WSK [torque converter clutch])

Caution: Please refer to the previous pages, Section 1, tables, for information on the lubricant classes released for the individual product groups.

ZF-Ecofluid M was specially designed for applications with manual transmissions and automatic transmissions in commercial vehicles. The combination of a hydrocrack base oil with a specially balanced additive package ensures excellent oxidation stability and is thus excellently suited for very long oil change intervals. It warrants high-quality transmission component protection, in particular of the synchronizers and the gearings. As a result of the flat viscosity characteristic curve, the oil is suited for applications in all climate zones, particularly in hot and cold regions. Moreover, in comparison with mineral transmission fluids, ZF-Ecofluid M helps to reduce fuel consumption by 0.5 up to 1.0%.

Lubricant class	01L	ZF-Ecofluid M 01E
Application	Oil and filter change intervals ⁽²⁾	
- Off-road operation e.g. mining application - Average speed up to 20 km/h	5.000 h 100.000 km 1 year	10.000 h 200.000 km 2 years ⁽¹⁾
- Hot country use ⁽⁵⁾ - Long-distance transport > 44 t - Short-distance transport- Tough operating conditions - Scheduled routes (buses) - Average speed from 20 to 60 km/h	240.000 km 2 years	360.000 km 3 years ⁽¹⁾
- Long-distance transport (trucks) - Long-distance coach journeys (buses) - Average speed as of 60 km/h	360.000 km 2 years	540.000 km 3 years ⁽¹⁾

3. Low temperatures limits

Lubricant classes	Oil type / SAE viscosity grade	Initial vehicle start-up at oilsump temperatures
ZF-Ecofluid M, 01E, 01L	75W-80	- 40°C 

4. Explanation of footnotes and comments

Footnotes

- (1) These intervals only apply to a hose breather in a dry area. If there is no hose breather in the dry area, the oil change intervals specified for lubricant class 01L apply. This restriction does not apply to bus applications. In the case of transmissions filled ex-works with lubricant class 01E, no oil change must be effected during the first two years as of initial registration. In case of retrofitting or repair in this period, oil refills with Lubricant Class 01E are permitted. Exception: The limits of application in accordance with the TE-ML 01 (operating hours, mileage [km]) are already met prior to the expiration of the first two years.
- (2) Oil and filter change required, depending on what occurs first. Only use genuine ZF filter inserts.
 - Intarder 2: 6085 298 026
 - Intarder 3: 0501 215 163
 - WSK: 0501 202 378
- (3) First filling: Only the lubricant classes listed are permitted for initial fillings of transmissions. ZF recommends the oil grade listed in Table 1.
- (4) Service filling: The lubricant classes listed are compulsory for service oil changes according to the oil-change intervals mentioned under Section 2. **In case of oil changes at transmission mileage of up to 7 500 km, only oils for initial fillings must be used.** In the case of transmissions filled ex-works with lubricant class 01E, due attention must always be paid to footer 1.
- (5) The denomination „hot country use“ is derived from the area where the vehicle is used, rather than from a country in the sense of a state.
Regarding ZF units, we say "Hot country use" when:
 1. the monthly average temperature exceeds 25°C in more than 2 months within a year
 2. or if temperatures rise above 40°C on more than 7 days in a year.

Comments

1. Instructions for transmission ventilation in accordance with Installation Guidelines 1203 765 110 and 1328 765 101 must be followed.
2. 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).
3. 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. ZF will not assume liability for damage caused by non-observance of our maintenance instructions.

5. Lubricant classes and approved trade products

Lubricant class 01E

Manufacturer (01E)

ARAL AG, BOCHUM/DE
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CEPESA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 DAF TRUCKS NV, EINDHOVEN/NL
 FUCHS PETROLUB SE, MANNHEIM/DE
 HUILES BERLIET S.A., SAINT-PRIEST/FR
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (01E)

ARAL GETRIEBEÖL SNS-M 75W-80
 CASTROL SYNTRANS Z LONG LIFE 75W-80
 CASTROL TRANSMAX MANUAL Z LONG LIFE 75W-80
 CEPESA TRANSMISIONES Z5 FE+LD 75W80
 DAF XTREME 75W-80
 FUCHS TITAN CYTRAC ULTRA SYNTH SAE 75W-80
 RTO LONGEVIA BZV ECO 75W-80
 TUTELA TRANSMISSION XT-D 540 (SAE 75W-80)
 TOTAL TRANSMISSION GEAR 9 FE 75W-80
 ZF-ECOFLUID M SAE 75W-80

ZF approval number

ZF000130
 ZF000609
 ZF002157
 ZF002240
 ZF002124
 ZF001457
 ZF001260
 ZF000532
 ZF001773
 ZF002155

Lubricant class 01L**Manufacturer (01L)**

ADDINOL LUBE OIL GMBH, LEUNA/DE
 BARDAHL ASIA PACIFIC PTE LTD, SINGAPORE/SG
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 CASTROL LTD, LONDON/GB
 CASTROL LTD, LONDON/GB
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES
 CEPSA 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
 CONDAT LUBRIFIANTS, CHASSE SUR RHONE/FR
 DAF TRUCKS NV, EINDHOVEN/NL
 DEUTSCHE ÖLWERKE LUBMIN, LUBMIN/DE
 DONGFENG COMMERCIAL VEHICLE CO. LTD, HUBEI/CN
 ENI S.P.A., ROME/IT
 EUROPART TRADING GMBH, HAGEN/DE
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FINKE MINERALÖLWERK GMBH, 27374 VISSelhÖVEDE/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 FUCHS PETROLUB SE, MANNHEIM/DE
 GULF OIL INTERNATIONAL, MUMBAI/IN
 HAFSA FRANCE, YVETOT/FR
 INA MAZIVA LTD., ZAGREB/HR
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 MOTUL SA, AUBERVILLIERS/FR
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 OY TEBOIL AB, HELSINKI/FI
 PAZ LUBRICANTS & CHEMICALS, HAIFA/IL
 PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR
 PETROMIN CORPORATION, JEDDAH/SA
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PHI OIL GMBH, ST. GEORGEN/AT
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 TAMOIL ITALIA SPA, MILANO/IT
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 UNIL OPAL, SAUMUR/FR
 VALVOLINE EUROPE, DORDRECHT/NL
 VEEDOL INTERNATIONAL LIMITED, GLASGOW/GB
 YACCO SAS, ST PIERRE LES ELBEUF/FR
 ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE

Trade name (01L)

ADDINOL GETRIEBEÖL GS 75W-80 SL
 SYNMAXTRAN 4000 SAE 75W-80
 TECTROL SYNTOGEAR MA 7580
 MOTOREX PRISMA TF SAE 75W/80
 CASTROL SYNTRANS Z 75W-80
 CASTROL TRANSMAX MANUAL Z 75W-80
 CEPSA TRANSMISIONES FE+LD 75W-80
 MAN SUPER GEAR 75W-80
 MULTIGEAR MTF 75W-80
 MULTIGEAR MTF 75W-80
 DELO SYN-MTF XZ 75W-80
 GEAR TDS 75W80
 DAF PREMIUM 75W-80
 AVENO TRUCK GEAR LONGLIFE 75W-80
 DFCV-HDT 31
 ENI ROTRA MULTIGEAR 75W-80
 EUROPART SYNTHOGEAR INT. 75W80
 MOBIL DELVAC XHP TRANSMISSION OIL 75W-80
 MOBIL DELVAC 1 TRANSMISSION FLUID 75W-80
 AVIATICON GOLD MTF 75W-90
 FUCHS TITAN CYTRAC MAN SYNTH SAE 75W-80
 PENTOSIN TLD 75W-80
 GEARWAY S4 75W-80
 FUCHS TITAN CYTRAC MAT SAE 75W-80
 FUCHS TITAN CYTRAC MAT SAE 75W-80
 GULF SYNGEAR FE 75W-80
 GEARTARDER SAE 75W-80
 INA TRANSMOL HD SAE 75W-80
 Q8 T 60 NTECH SAE 75W-80
 MOTUL GEAR SYNTH XD 75W-80
 LUKOIL TRANSMISSION SYNTH MPV 75W-80
 TEBOIL GEAR MTF-V
 PAZ TRANS ULTRA 75W-80
 LUBRAX GOLD XP SAE 75W-80
 PETROMIN GEAR BOX Z2 SAE 75W80
 TUTELA TRANSMISSION FE-GEAR (SAE 75W-80)
 GEAR OIL MDV SILVER 75W80
 RAVENOL SSG SPEC SYNT LKW GETRIEBEÖL 75W-80
 REPSOL CARTAGO CAJAS FE LD 75W80
 SHELL SPIRAX S6 GXME 75W- 80
 SINOPEC GREATWALL MTF 02L 75W-80
 SINOPEC GREATWALL MTF 02L 75W-80
 SINOPEC GREATWALL MTF 02L 75W-80
 TAMOIL TAMGEAR PLUS SAE 75W-80
 TOTAL TRANSMISSION GEAR 8 FE 75W-80
 GERION LD 75W80
 VALVOLINE HEAVY DUTY GEAR OIL PRO 75W-80 LD
 VEEDOL GEAR OIL LD 75W-80
 BVX Z 1000 75W-80
 DIVINOL SYNTHOGEAR INT. 75W80

ZF approval number

ZF000974
 ZF003331
 ZF001935
 ZF001660
 ZF000219
 ZF002214
 ZF000472
 ZF000862
 ZF000813
 ZF001220
 ZF002275
 ZF001040
 ZF002123
 ZF003546
 ZF003558
 ZF000861
 ZF001875
 ZF000089
 ZF001683
 ZF002294
 ZF001140
 ZF001423
 ZF001710
 ZF003373
 ZF003374
 ZF000683
 ZF000384
 ZF003344
 ZF000324
 ZF001987
 ZF003412
 ZF003339
 ZF003387
 ZF001337
 ZF001967
 ZF000530
 ZF001386
 ZF001111
 ZF001673
 ZF001481
 ZF002047
 ZF003393
 ZF001338
 ZF001779
 ZF003526
 ZF001830
 ZF002025
 ZF001042
 ZF001679