



Manual transmissions for trucks with "TE-ML 01" entry 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	2
3. Low temperatures limits	2
4. Explanation of footnotes and comments	3
5. Lubricant classes and approved trade products	as from 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	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 8S151IT, 16S151IT, 8S181IT, 16S181IT, 16S221IT, 16S251IT 8S1621, 16S1621, 8S1821, 16S1821, 8S1921, 16S1921, 16S2021, 8S2221, 16S2221, 16S2521, 16S2721 16S1581, 16S1681, 16S2181, 16S2281 16S231IT, 16S2321, 12S2331 12S2131, 12S2331, 12S2831 16S1631, 8S1831, 16S1831, 8S1931, 16S1931, 16S2031, 8S2231, 16S2231, 16S2531, 16S2731	ZF-Ecofluid M 01E	ZF-Ecofluid M 01E / 01L

The list of lubricants TE-ML 01, **Edition 01.04.2014** 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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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)
- Outside temperatures > 40°C - 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 oil sump 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 or 01L 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.
- (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.

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
CEPSA COMERCIAL PETRÓLEO, MADRID/ES
DAF TRUCKS NV, EINDHOVEN/NL
FUCHS PETROLUB AG, 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
MAN SUPER GEAR 341-Z5
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 XS FE 75W-80
ZF-ECOFUID M SAE 75W-80

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

BAYWA AG MÜNCHEN, MÜNCHEN/DE
CHEVRON LUBRICANTS, SAN RAMON, CA/US
CHEVRON LUBRICANTS, SAN RAMON, CA/US
DAF TRUCKS NV, EINDHOVEN/NL
DE OLIEBRON BV, ZWIJNDRECHT/NL
DEEP OIL TRADING COMPANY LLP, LONDON/GB
EXXONMOBIL CORPORATION, FAIRFAX, VA/US
FUCHS PETROLUB AG, MANNHEIM/DE
HAFA FRANCE, YVETOT/FR
PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
PHI OIL GMBH, ST. GEORGEN/AT
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
TAMOIL ITALIA SPA, MILANO/IT
VEEDOL INTERNATIONAL LIMITED, GLASGOW/GB
YACCO SAS, ST PIERRE LES ELBEUF/FR

Trade name (01L)

TECTROL SYNTOGear MA 7580
MULTIGEAR MTF 75W-80
MULTIGEAR MTF 75W-80
DAF PREMIUM 75W-80
TOR MT/LD GEAR OIL 75W80
DRIVE RW FORCE HS GL-4 75W-80
MOBIL DELVAC XHP TRANSMISSION OIL 75W-80
FUCHS TITAN CYTRAC MAN SYNTH SAE 75W-80
GEARTARDER SAE 75W-80
LUBRAX GOLD XP SAE 75W-80
TUTELA TRANSMISSION FE-GEAR (SAE 75W-80)
GEAR OIL MDV SILVER 75W80
RAVENOL SSG SPEC SYNT LKW GETRIEBEÖL 75W-80
SHELL SPIRAX S6 GXME 75W- 80
TAMOIL TAMGEAR PLUS SAE 75W-80
VEEDOL GEAR OIL LD 75W-80
BVX Z 1000 75W-80