



**Manual transmissions for trucks and buses
with "TE-ML 01" entry on the type plate**

List of lubricants TE-ML 01

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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 for first fill and service fill
Ecomid without Intarder 8S1110, 9S1110, 9S1310	ZF-Ecofluid M 01E
Ecomid with Intarder 8S1111, 9S1111, 9S1311	ZF-Ecofluid M 01E
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, 16S2730	ZF-Ecofluid M 01E
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

The list of lubricants TE-ML 01, Edition 01.01.2010 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 .	ZF Friedrichshafen AG D-88038 Friedrichshafen phone: + 49 7541 77 3505 fax: + 49 7541 77 7319
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2. Oil change intervals

Lubricant class	ZF-Ecofluid M, 01E
Application	oil change interval (Oil change required, depending on what occurs first.)
- Off-road operation e.g. minefield application - Average speed up to 20 km/h	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	360.000 km 3 years (1)
- Long-distance transport (trucks) - Long-distance coach journeys (buses) - Average speed as of 60 km/h	540.000 km 3 years (1)
- Hydraulic actuators	---

3. Low temperatures limits

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

4. Explanation of footnotes and comments

Footnotes

- (1) 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. For this specific period, oil refills (e.g. retrofit, repair, etc.) are only permissible with the lubricant class 01E. 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.

Comments:

- Instructions for transmission ventilation in accordance with Installation Guidelines 1203 765 010 and 1328 765 001 must be followed.
- 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.
- 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

Gear oil of viscosity grades: SAE 75W-80
(synthetic, applicable for Intarder)

Manufacturer (01E)

CASTROL INTERNATIONAL, PANGBOURNE READING/GB
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/D

Trade name (01E)

CASTROL SYNTRANS MAX 75W-80
ZF-ECOFLUID M