



**Powershift transmissions, type EcoLife, for buses and trucks**

**List of lubricants TE-ML 20**

<b>Table of contents</b>	<b>Page</b>
<a href="#">1. Vehicle classification</a> .....	1
<a href="#">2. Approved lubricant classes for EcoLife</a> .....	1
<a href="#">3. Oil and filter change intervals</a> .....	2
<a href="#">3.1 Oil and filter change intervals for city buses as well as trucks used in long-haul and delivery traffic (ZF-EcoLife variants with the final letters B, BS, T, TK, TP, TKP):</a> .....	2
<a href="#">3.2 Oil and filter change intervals for coaches, transmission type Coachline <sup>(4)</sup>:</a> .....	3
<a href="#">3.3 Oil and filter change intervals for coaches, transmission type Coach (6AP2300BC):</a> .....	4
<a href="#">4. Explanation of footnotes and comments</a> .....	4
<a href="#">5. Lubricant classes and approved trade products</a> .....	5

**1. Vehicle classification**

EcoLife transmissions are operated under loads and at oil temperatures which vary significantly. Oil releases and oil-change intervals are therefore vehicle-dependent. Consult the owner's manual for your vehicle to check whether TE-ML 20.100, 20.105 or 20.110 applies.

**2. Approved lubricant classes for EcoLife**

<b>Product groups</b>	<b>Vehicle classification acc. to owner's manual</b>	<b>Lubricant classes for service fill <sup>(1)</sup></b>
<b>EcoLife for city buses</b>  <u>EcoLife:</u> 6AP1000B, 6AP1000BS, 6AP1200B, 6AP1200BS, 6AP1400B, 6AP1400BS, 6AP1600BS, 6AP1620B, 6AP1700B, 6AP2000B and accessory bevel-gear variants  <u>EcoLife2:</u> 6AP1020B, 6AP1220B, 6AP1420B, 6AP1620B, 6AP1720B, 6AP2020B  <b>EcoLife für coaches</b>  <u>EcoLife Coach:</u> 6AP2300BC  <u>EcoLife2 Coachline:</u> 6AP1220C, 6AP1420C, 6AP1620C, 6AP1720C, 6AP2020C, 6AP2320C, 6AP2520C, 6AP2820C  <b>EcoLife for trucks <sup>(3)</sup></b>  All ZF-EcoLife variants with the final letters T, TK, TP, TKP	TE-ML 20.100	20B / 20C / 20F / 20G
	TE-ML 20.105	20B / 20C / 20F / 20G
	TE-ML 20.110	20F / 20G

The list of lubricants TE-ML 20, <b>edition 10.10.2024</b> replaces all previous editions. The current list can be requested from any ZF after-sales service center or accessed on the Internet under <a href="http://www.aftermarket.zf.com/lubricants">www.aftermarket.zf.com/lubricants</a> .	<b>ZF Friedrichshafen AG</b> D-88038 Friedrichshafen <a href="http://www.zf.com/contact">www.zf.com/contact</a>
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### 3. Oil and filter change intervals

#### 3.1 Oil and filter change intervals for city buses as well as trucks used in long-haul and delivery traffic (ZF-EcoLife variants with the final letters B, BS, T, TK, TP, TKP):

**Table 1: Vehicle classification TE-ML 20.100 (Oil sump temperatures up to 100°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	60,000 km 1 x year
20C	120,000 km 1 x every 2 years
20F / 20G	240,000 km 1 x every 4 years

**Table 2: Vehicle classification TE-ML 20.105 (Oil sump temperatures up to 105°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	60,000 km 1 x year
20C	120,000 km 1 x every 2 years
20F / 20G	180,000 km 1 x every 3 years

**Table 3: Vehicle classification TE-ML 20.110 (Oil sump temperatures up to 110°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20F / 20G	120,000 km 1 x every 3 years

**3.2 Oil and filter change intervals for coaches, transmission type Coachline <sup>(4)</sup>:****Table 1: Vehicle classification TE-ML 20.100 (Oil sump temperatures up to 100°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	180,000 km 1 x year
20C	240,000 km 1 x every 2 years
20F / 20G	480,000 km 1 x every 4 years

**Table 2: Vehicle classification TE-ML 20.105 (Oil sump temperatures up to 105°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	180,000 km 1 x year
20C	240,000 km 1 x every 2 years
20F / 20G	360,000 km 1 x every 3 years

**Table 3: Vehicle classification TE-ML 20.110 (Oil sump temperatures up to 110°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20F / 20G	240,000 km 1 x every 3 years

### 3.3 Oil and filter change intervals for coaches, transmission type Coach (6AP2300BC):

**Table 1: Vehicle classification TE-ML 20.100 (Oil sump temperatures up to 100°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	120,000 km 1 x year
20C	180,000 km 1 x every 2 years
20F / 20G	300,000 km 1 x every 4 years

**Table 2: Vehicle classification TE-ML 20.105 (Oil sump temperatures up to 105°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20B	120,000 km 1 x year
20C	180,000 km 1 x every 2 years
20F / 20G	240,000 km 1 x every 3 years

**Table 3: Vehicle classification TE-ML 20.110 (Oil sump temperatures up to 110°C)**

Lubricant class <sup>(1)</sup>	Oil and pressure filter change interval [km/year] <sup>(2)</sup>
20F / 20G	180,000 km 1 x every 3 years

#### 4. Explanation of footnotes and comments

- (1) Refer to the following pages for approved commercial products and oil change intervals.
- (2) Oil and filter change required, depending on what occurs first. Use only ZF original filter elements, ZF order no. 4181 298 002. In the case that the initial reoiling from an ATF [automatic transmission fluid] of the lubricant class 20B to an ATF with extended oil change intervals is planned, then an interim oil change after 60,000 km / one year at the most is required.

The vehicle classification (temperature release class) determined by the OEM may be exceeded for a maximum of 5% of the operating time, and this amount of percentage exceedance may only occur in the next higher temperature release class. The next higher class must be applied as of >5%. The maximum oil sump temperature can be found in the respective vehicle documents of the manufacturer.

- (3) For information on oil and filter change intervals for special vehicles and stationary applications (ZF-EcoLife variants with the final letters E, EK, EP, EKP, S, SP, SK or SKP), please refer to the List of Lubricants TE-ML 25.
- (4) ZF-EcoLife variants type Coachline with the final letter C, except 6AP2300BC. For oil change intervals for 6AP2300BC transmission refer to section 3.3.

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.

## 5. Lubricant classes and approved trade products

### Lubricant class 20B

#### Manufacturer (20B)

ADDINOL LUBE OIL GMBH, LEUNA/DE  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 CEPESA COMERCIAL PETRÓLEO S.A.U., MADRID/ES  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CITGO PETROLEUM CORPORATION, HOUSTON/US  
 COMERCIAL ROSHFRANS, S.A. DE C.V., MEXICO, D.F./MX  
 ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT  
 ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT  
 ENOC MARKETING LLC, DUBAI/AE  
 HUILES BERLIET S.A., SAINT-PRIEST/FR  
 INA MAZIVA LTD., ZAGREB/HR  
 LAEMMLE CHEMICALS AG, MADETSWIL/CH  
 MABANOL GMBH & CO. KG, HAMBURG/DE  
 MOL-LUB KFT, ALMASFUZITO/HU  
 OEL-BRACK AG, HUNZENSCHWIL/CH  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT  
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PHI OIL GMBH, ST. GEORGEN/AT  
 RALYO LUBRICANTES, S.A. DE C.V., SANTIAGO TIANGUISTEN/MX  
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 ROWE MINERALÖLWERK GMBH, WORMS/DE  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 TONGYI PETROLEUM CHEMICAL CO., LTD., BEIJING/CN  
 TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
 UNITED OIL COMPANY PTE LTD, SINGAPORE/SG  
 VALVOLINE GLOBAL PRODUCTS, LEXINGTON/US  
 VIBRA ENERGIA S.A., DUQUE DE CAXIAS/BR

#### Trade name (20B)

ADDINOL ATF XN 5  
 LUBEX ATF-III KYS  
 LUBEX ATF-III KYS  
 BELGIN LUBEX MITRAS ATF III PLUS  
 BELGIN LUBEX MITRAS ATF HD III  
 CEPESA ATF 3000 S  
 DELO SYN ATF HD  
 CITGO QUATRASYN SYNTHETIC TRANSMISSION FLUID  
 ATF ALLPOWER MULTIVEHICULOS  
 ENI ROTRA ATF II E  
 ENI ROTRA ATF MULTI  
 ENOC ACTIVE SYN VVM  
 RTO STARMATIC S3  
 INA ATF DX IIIH  
 ROXOR ATF SUPER VTX  
 MABANOL RADON GEAR ATF III MV  
 MOL ATF SYNT 3H  
 MIDLAND OMNIMATIC  
 HIPOL ATF II E  
 AUXON II E  
 ATF XT III FLUID  
 PETRONAS TUTELA ATF 700 HD  
 ATF D3 GOLD  
 TRANSFLUID SYNTHETIC M-5  
 RAVENOL DEXRON III H  
 REPSOL MATIC III  
 REPSOL AUTOMATOR ATF III  
 ROWE HIGHTEC ATF 9000  
 SINOPEC GREATWALL ATF HD S  
 SINOPEC GREATWALL ATF HD  
 SRS WIOLIN ATF III MV  
 LINGXIAN 6+ AUTOMATIC TRANSMISSION FLUID  
 FLUIDMATIC XLD FE  
 UNITED MV 99  
 SYN GARD™ ATF ES  
 LUBRAX ATF HD

#### ZF approval number

ZF004911  
 ZF002255  
 ZF002293  
 ZF008301  
 ZF011973  
 ZF000386  
 ZF001664  
 ZF003690  
 ZF000385  
 ZF000951  
 ZF003452  
 ZF005942  
 ZF008343  
 ZF002314  
 ZF011929  
 ZF004879  
 ZF001895  
 ZF003682  
 ZF003623  
 ZF000048  
 ZF001177  
 ZF003627  
 ZF003507  
 ZF001025  
 ZF001609  
 ZF000318  
 ZF008281  
 ZF001937  
 ZF003346  
 ZF003348  
 ZF002061  
 ZF003377  
 ZF008244  
 ZF003562  
 ZF003710  
 ZF002120

**Lubricant class 20C****Manufacturer (20C)**

ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ALLEGHENY PETROLEUM, WILMERDING, PA/US  
 BASF SE, LUDWIGSHAFEN/DE  
 BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR  
 BELLINI S.P.A., ZANICA/IT  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES  
 CHAMPION CHEMICALS N.V., HEMIKSEM/BE  
 EXOL LUBRICANTS LTD, WEDNESBURY/GB  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GULF WESTERN OIL (AUST) PTY LTD, ST MARYS/AU  
 H. BANTLEON GMBH / GESELLS. D. AVIA, ULM/DE  
 HI-TEC OILS, SMITHFIELD/AU  
 JOHN DEERE, MOLINE, ILLINOIS/US  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 LIQUI MOLY GMBH, ULM/DE  
 LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MOTOREX AG, LANGENTHAL/CH  
 MOTOREX AG, LANGENTHAL/CH  
 MOTUL SA, AUBERVILLIERS/FR  
 OPET FUCHS MADENI YAG. SAN. VE TIC. A.S., IZMIR/TR  
 OY TEBOIL AB, HELSINKI/FI  
 PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT  
 PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA  
 PETROGAL S.A., LISBOA/PT  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 S.I.R.A.L. SPA, NOLA NAPOLI/IT  
 SASOL ENERGY, JOHANNESBURG/ZA  
 SINGAPORE PETROLEUM COMPANY LIMITED, SINGAPORE/SG  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 TAMOIL ITALIA SPA, MILANO/IT  
 TEDEX S.A., WARSZAWA/PL  
 TONGYI PETROLEUM CHEMICAL CO., LTD., BEIJING/CN  
 WOLF OIL CORPORATION N.V., HEMIKSEM/BE

**Trade name (20C)**

ADDINOL ATF XN HD  
 ALTRA SHL EXTENDED DRAIN ZF 20C  
 EMGARD 2805  
 BELGIN LUBEX MITRAS ATF SYN ULTRA  
 ATF OIL PAO PREMIUM EXTRA SAE 75W  
 CASTROL TRANSYND  
 CASTROL TRANSMAX ATF Z  
 TES-295 SYN TRANSMISSION FLUID  
 CEPSA ATF 4000 S  
 CHAMPION OEM SPECIFIC MULTI VEHICLE ATF HD-LD  
 AUTOTRANS ELC  
 MOBIL DELVAC 1 ATF  
 TRANSWAY ATF ULTRA  
 FUCHS TITAN ATF 5500  
 SYN-TS® ZFV  
 AVILUB FLUID ATZ 295  
 MULTITRANS PLUS ATF  
 HD SYNTHETIC TRANSMISSION FLUID  
 Q8 AUTO 15 S  
 LIQUI MOLY TOP TEC ATF 1700  
 LUKOIL ATF SYNTH MN Z3  
 MOL ATF 295  
 YORK 886  
 MOTOREX\_YORK ATF VZ  
 MOTUL ATF HD  
 OTOKAR SPECTRA ATF Z  
 TEBOIL FLUID ES-MAX  
 ATF XT III FLUID PLUS  
 DURADRIVE HD LONG DRAIN ATF  
 GALP TRANSMATIC Z  
 TUTELA ATF 900 HD  
 REPSOL MATIC SINTETICO  
 REPSOL AUTOMATOR ATF 14C  
 SIROIL ATF MAXIMUM  
 SYN TRANSMISSION OIL VI  
 DURASHIFT ATF HDLD  
 SINOPEC GREATWALL FULLY SYNTHETIC ATF HD S  
 SINOPEC GREATWALL SYNTHETIC ATF HD  
 TAMOIL ATF LONG LIFE HD  
 TEDEX ATF SYNTHETIC (S)  
 LINGXIAN 10+ AUTOMATIC TRANSMISSION FLUID  
 WOLF OFFICIALTECH MULTI VEHICLE ATF HD-LD

**ZF approval number**

ZF004913  
 ZF001756  
 ZF003370  
 ZF008386  
 ZF010429  
 ZF000226  
 ZF002158  
 ZF002298  
 ZF006058  
 ZF007147  
 ZF001685  
 ZF001827  
 ZF001330  
 ZF001797  
 ZF004900  
 ZF002288  
 ZF001669  
 ZF004851  
 ZF001635  
 ZF006000  
 ZF009451  
 ZF003361  
 ZF004907  
 ZF006107  
 ZF003587  
 ZF004737  
 ZF001726  
 ZF001748  
 ZF004791  
 ZF001893  
 ZF005936  
 ZF003586  
 ZF008282  
 ZF003709  
 ZF001091  
 ZF004870  
 ZF003345  
 ZF003347  
 ZF001672  
 ZF002213  
 ZF003378  
 ZF006128

**Lubricant class 20F**

**Manufacturer (20F)**

PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (20F)**

TUTELA TRANSMISSION ATF 120  
SHELL SPIRAX S6 ATF ZM  
ZF ECOFLUID A LIFE

**ZF approval number**

ZF000053  
ZF006080  
ZF001671

**Lubricant class 20G**

**Manufacturer (20G)**

TOTALENERGIES LUBRIFIANTS, NANTERRE/FR  
VOLVO GROUP, GOTHENBURG/SE  
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (20G)**

FLUIDMATIC HD XLD  
VOLVO AUTOMATIC TRANSMISSION FLUID 97005  
ZF ECOFLUID LIFE PLUS

**ZF approval number**

ZF011911  
ZF008362  
ZF001719