



**Manual transmissions, double-clutch transmissions  
and automatic transmissions for cars**

**List of lubricants TE-ML 11**

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The list of lubricants TE-ML 11, **edition 01.07.2017** 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](http://www.zf.com/lubricants).

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**1. Manual transmissions**

Product groups	Approved lubricants for service fills
S5-31 S5-39	According to spare part number of vehicle manufacturer: - BP Castrol BOT 338 => BMW Oil No. 2300 7533 513 => Castrol Syntrans B 75W
S6-37	According to spare part number of vehicle manufacturer: - Esso Gear Oil 304 / BMW Oil No. 2300 1434 404 (clutch bell housing label MTF-LT1) no longer available => replaced by BP Castrol BOT 338 - BP Castrol BOT 338 => BMW Oil No. 2300 7533 513 (clutch bell housing label MTF-LT2) => Castrol Syntrans B 75W - BP Castrol BOT 207 => BMW Oil No. 2300 7533 818 (clutch bell housing label MTF-LT3) <b>Warning: use of incorrect lubricant can cause transmission failure</b>
S6-35 S6-45	According to spare part number of vehicle manufacturer: - Pentosin FFL-3 => BMW Oil No. 8322 2167 666 (MTF-LT-5) => Daimler Oil No. A 002 989 04 03 (Getriebeöl ET) => JLR Oil No. GX73-M1R564-AA
S6-53	According to spare part number of vehicle manufacturer: - Esso Gear Oil 304 / BMW Oil No. 2300 1434 404 (clutch bell housing label MTF-LT1) no longer available => replaced by BP Castrol BOT 338 - BP Castrol BOT 338 => BMW Oil No. 2300 7533 513 (clutch bell housing label MTF-LT2) => VW Oil No. N 05279800 => Castrol Syntrans B 75W - BP Castrol BOT 207 => BMW Oil No. 2300 7533 818 (clutch bell housing label MTF-LT3) <b>Warning: use of incorrect lubricant can cause transmission failure</b>
6S530	According to spare part number of vehicle manufacturer: - BP Castrol BOT 338 => Nissan Oil No. 32001 1BY0A => Castrol Syntrans B 75W
S7-45HL, S7-45HLA S7-47HL S7-55HL, S7-55HLA	According to spare part number of vehicle manufacturer: - ExxonMobil Mobilube PTX 75W-90 => Porsche Oil No. 999.917.067.00 or => Porsche Oil No. 999.917.090.00

**2. Double-clutch transmissions**

Product groups	Approved lubricants for service fills
7DT45HL, 7DT45HLA, 7DT45FL 7DT46HL, 7DT46HLA, 7DT46FL 7DT47HL 7DT55HL, 7DT55HLA, 7DT55FL 7DT70HLA 7DT71HLA 7DT72HLA	According to spare part number of vehicle manufacturer: 1. Clutch section Pentosin FFL-3 => Porsche Oil No. 999.917.080.00 2. Transmission section ExxonMobil Mobilube PTX 75W-90 => Porsche Oil No. 999.917.067.00 or => Porsche Oil No. 999.917.090.00
7DT71HL	According to spare part number of vehicle manufacturer: 1. Clutch section => Porsche Oil No. 999.917.080.01 2. Transmission section ExxonMobil Mobilube PTX 75W-90 => Porsche Oil No. 999.917.067.00 or => Porsche Oil No. 999.917.090.00
7DT75, 7DT75A 7DT76, 7DT76A	According to spare part number of vehicle manufacturer: Pentosin FFL-3 => Porsche Oil No. 999.917.080.00
8DT80, 8DT80A, 8DT80APH	According to spare part number of vehicle manufacturer: - Pentosin EG FFL-8 => Porsche Oil No. 971.094.307.02A (test number)

### 3. Automatic transmissions

Product groups	Approved lubricants for service fills
3HP22, 3HP22Q, 4HP14Q, 4HP18FL <sup>(1)</sup> , 4HP18FLA <sup>(2)</sup> , 4HP18FLE <sup>(1)</sup> , 4HP18Q, 4HP18QE, 4HP22, 4HP22EH, 4HP22HL <sup>(3)</sup> , 4HP24, 4HP24A <sup>(2)</sup>	Automatic Transmission Fluid (ATF) according to lubricant classes 11A / 11B => Refer to the following pages for approved commercial products or Automatic Transmission Fluid (ATF) based on mineral base fluids according to former Dexron-II / Dexron-III specification by General Motors. => without listing
5HP18	According to marking: - Transmissions with black type plate Automatic Transmission Fluid (ATF) according to lubricant class 11B => Refer to the following pages for approved commercial products - Transmissions with green type plate or with green label on the oil pan. ZF-LIFEGUARDFLUID 5 (ZF No. S671 090 170) => BMW Oil No. 8322 9407807 ATF according to lubricant class 11B are not permitted (exception: ZF-LIFEGUARDFLUID 5) <b>Warning: use of incorrect lubricant can cause transmission failure</b>
5HP30	According to spare part number of vehicle manufacturer: - Shell ATF LA-2634 / BMW Oil No. 8322 9407765 (Marking of filling port of oil pan) no longer available => replaced by ZF-LIFEGUARDFLUID 5 - ZF-LIFEGUARDFLUID 5 (ZF No. S671 090 170) => BMW Oil No. 8322 9407807 (Marking of filling port of oil pan) => Rolls Royce Oil No. PL 31493PA
4HP20, 5HP19, 5HP19FL <sup>(1)</sup> , 5HP19FLA <sup>(2)</sup> , 5HP19HL <sup>(1)</sup> , 5HP19HLA <sup>(2)</sup> , 5HP24, 5HP24A <sup>(2)</sup>	According to spare part number of vehicle manufacturer: ZF-LIFEGUARDFLUID 5 (ZF No. S671 090 170) => Audi / VW Oil No. G 052162 A1 / A2 / A6 => BMW Oil No. 8322 9407807 => Citroen Oil No. Z 000169756 => Jaguar Oil No. JLM 20238 => Mercedes Benz Oil No. A 0019892203 => Peugeot Oil No. Z 000169756 => Porsche Oil No. 999.917.547.00
6HP19, 6HP19A <sup>(2)</sup> - MPL-dependent (main parts list) 6HP19X - <b>not for</b> Audi Q7, 6HP21, 6HP21X, 6HP26, 6HP26X, 6HP26A61 - <b>not for</b> vehicles equipped with Audi W12-engine <sup>(2)</sup> , 6HP28, 6HP28X, 6HP28A61, 6HP32, 6HP32A <sup>(2)</sup> , 6HP32X	According to spare part number of vehicle manufacturer: ZF-LIFEGUARDFLUID 6 (ZF No. S671 090 255) => AML Oil No. 4G4319A509/AA/S => Audi / VW Oil No. G 055005 A1 / A2 / A6 => Bentley Oil No. PY112995PA => BMW Oil No. 8322 0142516 => Hyundai Oil No. 040000C90SG => Jaguar Oil No. Jaguar Fluid 8432 => Land Rover Oil No. TYK500050 => Maserati Oil No. 231603
6HP19A <sup>(2)</sup> - MPL-dependent (main parts list) 6HP19X - for Audi Q7, 6HP26A61 - for vehicles equipped with Audi W12-engine <sup>(2)</sup> 6HP28AF <sup>(2)</sup> 8HP45, 8HP45X, 8HP45HIS, 8HP45XHIS 8HP50, 8HP50HIS, 8HP50X, 8HP50XHIS; 8HP55A <sup>(2)</sup> , 8HP55AHIS <sup>(2)</sup> , 8HP55FL, 8HP55FLHIS, 8P55AH <sup>(2)</sup> , 8P55FLH, 8HP65A <sup>(4)</sup> , 8HP65AX <sup>(5)</sup> , 8HP70, 8HP70HIS, 8HP70XHIS, 8HP70L, 8HP70X, 8HP75, 8HP75X, 8HP75XHIS, 8HP90, 8HP90A <sup>(2)</sup> , 8HP90X, 8HP90AHIS <sup>(2)</sup> , 8HP90A74 <sup>(2)</sup> 8HP95A <sup>(6)</sup> , 8HP95AX <sup>(5)</sup>	According to spare part number of vehicle manufacturer: ZF-LIFEGUARDFLUID 8 (ZF No. S671 090 312) => Audi / VW Oil No. G 060162 A1 / A2 / A6 ATF => BMW ATF 3+, Oil No. 83 22 2 289 720 => Jaguar Oil No. 02JDE 26444 => Land Rover Oil No. LR023288 => Chrysler Oil No. 68157995AA => Petronas Tutela Transmission AS8
8HP65APH, 8P75PH, 8P75XPH, 9HP48QXR, 9HP48QXO, 9HP48QX, 9HP48Q	According to spare part number of vehicle manufacturer: ZF LIFEGUARDFLUID 9 (ZF No. AA01.500.001) => BMW ATF 3+, Oil No. 83 22 2 289 720 => Honda ATF-Type 3.1.: 08263-999-01HE (EU), 08200-9017 (USA)

#### 4. Explanation of footnotes and comments

##### Footnotes

- (1) Filling differential with transmission oil Castrol SAF-AG4 => Audi / VW Oil No. N 052145000, Porsche Oil No. 999.917.545.00)
- (2) Split oil supply front / rear axle differential:
  - Filling front axle differential with transmission oil Castrol SAF-AG4  
=> Audi / VW Oil No. N 052145000, Porsche Oil No. 999.917.545.00)
  - Filling rear axle differential with transmission oil Castrol SAF-AG4 + 4% Sturaco FM 1992 KS  
=> Audi / VW Oil No. G 055145 A2)
 Common oil supply front /rear axle differential:
  - Filling with transmission oil Castrol SAF-AG4 + 4% Sturaco FM 1992 KS  
=> Audi / VW Oil No. G 055145 A2
- (3) Filling differential with transmission oil API GL-5, MIL-L-2105D, MIL-PRF-2105E, SAE J 3260, viscosity class SAE 75W-90 or SAE 90.
- (4) 8HP65A Status: April 2017

Application	front-axle differential	rear-axle center differential
Q5 B9 (A4/A5) TDI 260kW C8 (A6/A7) TDI D5 (A8) R4 + V6 Q8 R4 + V6 TDI Touareg R4 + V6 TDI	Castrol BOT851L  Audi / VW / Porsche Oil No. N.052.190.D0, G.065.190.A2	Castrol SAF-AG4 + 4% Sturaco FM1992 KS
B9 (A4/A5) except for TDI 260kW C8 (A6/A7) TFSI D5 (A8) V8 Q7 Q8 V6 TFSI Touareg V6 TFSI	Castrol SAF-AG4  Audi / VW Oil No. N.052.145.00, G.052.145.A2	Audi / VW Oil No. N.052.145.Z0, G.055.145.S2

- (5) Fill front-axle differential and all-wheel distributor transmission with Castrol BOT851L transmission oil  
=> Audi / VW / Porsche Oil No. N.052.190.D0, G.065.190.A2
- (6) Fill front-axle differential and rear-axle center differential with Castrol SAF-AG4 + 4% Sturaco FM1992 KS transmission oil  
=> Audi / VW Oil No. N.052.145.Z0, G.055.145.S2

##### Comments

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. Maintenance recommendations ZF automatic transmissions

##### 3/4-speed automatic transmissions:

ZF 3 and 4-speed automatic transmissions must be filled with approved ATF oils according to ZF list of lubricants TE-ML 11, lubricant class 11A / 11B or with mineral ATF oils according to the former Specification Dexron II / Dexron III by General Motors. For oil-change intervals consult the vehicle manufacturer's specifications.

##### 5-, 6-, 8- and 9-speed as well as 4HP20 automatic transmissions:

ZF 5-, 6-, 8- and 9-speed as well as the ZF 4HP20 automatic transmissions are filled maintenance-free with specially developed partially synthetic ATF oils. Maintenance-free fills are intended for normal operating conditions. Especially driving at very high operating temperatures can result in accelerated aging or increased wear of ATF oils. In case of above-average operating conditions, such as:

- frequent freeway driving in the upper speed range
- offensive, sporty driving style
- frequent trailer operation

it is recommended to refresh (change) the oil of the automatic transmission every 100,000 km or no later than after 8 years.

In each case, only released ATF oil may be used for oil changes. And oil changes must be performed in accordance with the relevant specifications.

**The exception is the ZF 5HP18 automatic transmission which must be filled differently depending on the version.**

**The released ATF oils in each case are specified in the ZF Lubricants List TE-ML 11.**

## 6. Lubricant classes and approved trade products

### Lubricant class 11A

#### Automatic Transmission Fluid (ATF)

Manufacturer (11A)	Trade name (11A)	ZF approval number
ALEXANDRIA MINERAL OILS COMPANY, ALEXANDRIA/EG	AMOC POWER	ZF001702
AMALIE PETROQUIMICA, MADRID/ES	ATF DEXRON II	ZF001128
ARAL AG, BOCHUM/DE	ARAL GETRIEBEÖL ATF 22	ZF000147
BP PLC., LONDON/GB	BP AUTRAN MBX	ZF000196
BUCHER AG LANGENTHAL, LANGENTHAL/CH	ATF SUPER	ZF000593
CASTROL LTD, LONDON/GB	CASTROL ATF DEX II MULTIVEHICLE	ZF000223
CHEVRON LUBRICANTS, SAN RAMON, CA/US	TEXAMATIC B	ZF001202
CHEVRON LUBRICANTS, SAN RAMON, CA/US	TEXAMATIC 4291	ZF001574
ENI S.P.A., ROME/IT	AGIP ATF II D	ZF000925
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL ATF 220	ZF000033
FABRIKA MAZIVA FAM AD, KRUSÉVAC/RS	ATF DII	ZF001187
INA MAZIVA LTD., ZAGREB/HR	INA ATF SUPER	ZF000248
KOCAK PETROL URUNLERI SAN.VE TIC.LTD.STI, KOCAELI/TR	SPEEDOL ATF DEXRON II	ZF000979
LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE	LIEBHERR HYDRAULIC-GEAR ATF	ZF002119
LIQUI MOLY GMBH, ULM/DE	LIQUI MOLY ATF DEXRON IID	ZF002052
MEGUIN GMBH & CO. KG, SAARLOUIS/DE	MEGOL HYDRAULIKOEL ATF DEXRON II D	ZF001992
MOTUL SA, AUBERVILLIERS/FR	MOTUL DEXRON II D	ZF001104
OOO "LLK-INTERNATIONAL", MOSCOW/RU	LUKOIL ATF IID	ZF001759
ORLEN OIL SP. Z O.O., KRAKOW/PL	HIPOL ATF II D	ZF000081
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY	TUTELA TRANSMISSION STARFLUID HD-ED	ZF000992
PRISTA OIL HOLDING EAD, RUSE/BG	PRISTA ATF	ZF000355
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S2 ATF AX	ZF000374
UNIL OPAL, SAUMUR/FR	MATIC D	ZF001071

**Lubricant class 11B****Automatic Transmission Fluid (ATF)****Manufacturer (11B)**

AMALIE PETROQUIMICA, MADRID/ES  
ARAL AG, BOCHUM/DE  
BP PLC., LONDON/GB  
CASTROL LTD, LONDON/GB  
CASTROL LTD, LONDON/GB  
ENI S.P.A., ROME/IT  
EXXONMOBIL CORPORATION, HOUSTON, TX/US  
EXXONMOBIL CORPORATION, HOUSTON, TX/US  
FUCHS PETROLUB SE, MANNHEIM/DE  
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (11B)**

ATF DEXRON III  
ARAL GETRIEBEÖL ATF LD  
BP AUTRAN LTF  
CASTROL TRANSMAX Z  
CASTROL TRANSMAX ATF Z  
AGIP DEXRON III  
MOBIL ATF D 21065  
MOBIL ATF LT 71141  
PENTOSIN ATF 1  
Q8 AUTO 15  
ZF-LIFEGUARDFLUID 5

**ZF approval number**

ZF001121  
ZF000144  
ZF000195  
ZF000221  
ZF002158  
ZF000927  
ZF000038  
ZF000044  
ZF000734  
ZF000082  
ZF001363