



**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 01.10.2018** 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.

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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: - Castrol BOT 338 => BMW Oil No. 2300 7533 513 => Castrol Syntrans B 75W => Castrol Transmax Manual 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 Castrol BOT 338 - Castrol BOT 338 => BMW Oil No. 2300 7533 513 (clutch bell housing label MTF-LT2) => Castrol Syntrans B 75W => Castrol Transmax Manual B 75W - Castrol BOT 207 => BMW Oil No. 2300 7533 818 (clutch bell housing label MTF-LT3) Warning: use of incorrect lubricant can cause transmission failure
S6-35 S6-45	According to spare part number of vehicle manufacturer: - Fuchs 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 Castrol BOT 338 - Castrol BOT 338 => BMW Oil No. 2300 7533 513 (clutch bell housing label MTF-LT2) => VW Oil No. N 05279800 => Castrol Syntrans B 75W => Castrol Transmax Manual B 75W - Castrol BOT 207 => BMW Oil No. 2300 7533 818 (clutch bell housing label MTF-LT3) Warning: use of incorrect lubricant can cause transmission failure
6S530	According to spare part number of vehicle manufacturer: - Castrol BOT 338 => Nissan Oil No. 32001 1BY0A => Castrol Syntrans B 75W => Castrol Transmax Manual 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 7DT48HL 7DT49HL 7DT55HL, 7DT55HLA, 7DT55FL 7DT70HLA 7DT71HLA 7DT72HLA 7DT78HL	According to spare part number of vehicle manufacturer: 1. Clutch section Fuchs 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: Fuchs Pentosin FFL-3 => Porsche Oil No. 999.917.080.00
8DT80, 8DT80A, 8DT80APH	According to spare part number of vehicle manufacturer: - Fuchs Pentosin (EG) FFL-8 => Porsche Oil No. 000.043.201.44 => Bentley Oil No. G 052524 B2

3. Automatic transmissions

Product groups	Approved lubricants for service fills
3HP22, 3HP22Q, 4HP14Q, 4HP18FL ⁽¹⁾ , 4HP18FLA ⁽²⁾ , 4HP18FLE ⁽¹⁾ , 4HP18Q, 4HP18QE, 4HP22, 4HP22EH, 4HP22HL ⁽³⁾ , 4HP24, 4HP24A ⁽²⁾	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) Warning: use of incorrect lubricant can cause transmission failure
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 ⁽¹⁾ , 5HP19FLA ⁽²⁾ , 5HP19HL ⁽¹⁾ , 5HP19HLA ⁽²⁾ , 5HP24, 5HP24A ⁽²⁾	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 ⁽²⁾ - MPL-dependent (main parts list) 6HP19X - not for Audi Q7, 6HP21, 6HP21X, 6HP26 , 6HP26X, 6HP26A61 - not for vehicles equipped with Audi W12-engine ⁽²⁾ , 6HP28, 6HP28X, 6HP28A61, 6HP32, 6HP32A ⁽²⁾ , 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 ⁽²⁾ - MPL-dependent (main parts list) 6HP19X - for Audi Q7, 6HP26A61 - for vehicles equipped with Audi W12-engine ⁽²⁾ 6HP28AF ⁽²⁾ 8HP45, 8HP45X, 8HP45HIS, 8HP45XHIS 8HP50, 8HP50HIS, 8HP50X, 8HP50XHIS; 8HP55A ⁽²⁾ , 8HP55AHIS ⁽²⁾ , 8HP55FL, 8HP55FLHIS, 8P55AH ⁽²⁾ , 8P55FLH, 8HP65A ⁽⁴⁾ , 8HP65AX ⁽⁵⁾ , 8HP70, 8HP70HIS, 8HP70XHIS, 8HP70L, 8HP70X, 8HP75, 8HP75X, 8HP75XHIS, 8HP90, 8HP90A ⁽²⁾ , 8HP90X, 8HP90AHIS ⁽²⁾ , 8HP90A74 ⁽²⁾ 8HP95A ⁽⁶⁾ , 8HP95AX ⁽⁵⁾	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

<p>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.</p>
<p>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.</p> <p>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.</p>
<p>The exception is the ZF 5HP18 automatic transmission which must be filled differently depending on the version.</p>
<p>The released ATF oils in each case are specified in the ZF Lubricants List TE-ML 11.</p>

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
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX ATF DX II MULTIVEHICLE	ZF003358
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, KRUŠEVAC/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
ZF002269
ZF001363