



**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 01.07.2015** 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: - 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) Warning: use of incorrect lubricant can cause transmission failure
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) Warning: use of incorrect lubricant can cause transmission failure
6S530	According to spare part number of vehicle manufacturer: - BP Castrol BOT 338 => Nissan Oil No. 32001 1BY0A => Castrol Syntrans B 75W
S7-45HL	According to spare part number of vehicle manufacturer: - ExxonMobil Mobilube PTX 75W-90 => Porsche Oil No. 999.917.067.00

2. Double-clutch transmissions

Product groups	Approved lubricants for service fills
7DT45HL, 7DT45HLA, 7DT45FL 7DT46HL, 7DT46HLA, 7DT46FL 7DT47HL 7DT70HLA 7DT71HLA	According to spare part number of vehicle manufacturer: 1. Clutch component Pentosin FFL-3 => Porsche Oil No. 999.917.080.00 2. Transmission component ExxonMobil Mobilube PTX 75W-90 => Porsche Oil No. 999.917.067.00
7DT71HL	According to spare part number of vehicle manufacturer: 1. Clutch component => Porsche Oil No. 999.917.080.01 2. Transmission component ExxonMobil Mobilube PTX 75W-90 => Porsche Oil No. 999.917.067.00
7DT75, 7DT75A 7DT76, 7DT76A	According to spare part number of vehicle manufacturer: Pentosin FFL-3 => Porsche Oil No. 999.917.080.00

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 with Audi W12-engine ⁽²⁾ 6HP28AF ⁽²⁾ 8HP45, 8HP45X, 8HP55A ⁽²⁾ , 8HP70, 8HP70L, 8HP70X, 8HP90, 8HP90A ⁽²⁾ 9HP48	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 Oil No. 8322 2152426 => Jaguar Oil No. 02JDE 26444 => Land Rover Oil No. LR023288 => Chrysler Oil No. 68157995AA => Petronas Tutela Transmission AS8

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.

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. It is recommended, in the event of severe operating conditions, such as: - frequent highway driving in top speed range, - offensive, sporty driving style, - frequent trailer operation, being above average, oil purification (oil change) on automatic transmissions is recommended between 80,000 km and 120,000 km, or 8 years, depending on the load. 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)

ALEXANDRIA MINERAL OILS COMPANY, ALEXANDRIA/EG
 AMALIE PETROQUIMICA, MADRID/ES
 ARAL AG, BOCHUM/DE
 BP PLC., LONDON/GB
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 CASTROL LTD, LONDON/GB
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 ENI S.P.A., ROME/IT
 EXXONMOBIL CORPORATION, FAIRFAX, VA/US
 FABRIKA MAZIVA FAM AD, KRUSĚVAC/RS
 INA MAZIVA LTD., ZAGREB/HR
 KOCAK PETROL URUNLERI SAN.VE TIC.LTD.STI, KOCAELI/TR
 MOTUL SA, AUBERVILLIERS/FR
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 ORLEN OIL SP. Z O.O., KRAKOW/PL
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PRISTA OIL HOLDING EAD, RUSE/BG
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 TARIMSAN TARIM SAN. VE TIC. A.S, KOCAELI/TR
 UNIL OPAL, SAUMUR/FR
 VALVOLINE EMEA, DORDRECHT/NL

Trade name (11A)

AMOC POWER
 ATF DEXRON II
 ARAL GETRIEBEÖL ATF 22
 BP AUTRAN MBX
 ATF SUPER
 CASTROL ATF DEX II MULTIVEHICLE
 TEXAMATIC B
 TEXAMATIC 4291
 AGIP ATF II D
 MOBIL ATF 220
 ATF DII
 INA ATF SUPER
 SPEEDOL ATF DEXRON II
 MOTUL DEXRON II D
 OMV ATF D II
 LUKOIL ATF IID
 HIPOL ATF II D
 TUTELA TRANSMISSION STARFLUID HD-ED
 PRISTA ATF
 SHELL SPIRAX S2 ATF AX
 TARMOND ATF II
 MATIC D
 ATF TYPE D

ZF approval number

ZF001702
 ZF001128
 ZF000147
 ZF000196
 ZF000593
 ZF000223
 ZF001202
 ZF001574
 ZF000925
 ZF000033
 ZF001187
 ZF000248
 ZF000979
 ZF001104
 ZF000972
 ZF001759
 ZF000081
 ZF000992
 ZF000355
 ZF000374
 ZF000408
 ZF001071
 ZF000687

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
 DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/DE
 ENI S.P.A., ROME/IT
 EXXONMOBIL CORPORATION, FAIRFAX, VA/US
 EXXONMOBIL CORPORATION, FAIRFAX, VA/US
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 YACCO SAS, ST PIERRE LES ELBEUF/FR
 ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (11B)

ATF DEXRON III
 ARAL GETRIEBEÖL ATF LD
 BP AUTRAN LTF
 CASTROL TRANSMAX Z
 PENTOSIN ATF 1
 AGIP DEXRON III
 MOBIL ATF D 21065
 MOBIL ATF LT 71141
 Q8 AUTO 15
 TOTAL FLUIDE AT 42
 ATF III
 ZF-LIFEGUARDFLUID 5

ZF approval number

ZF001121
 ZF000144
 ZF000195
 ZF000221
 ZF000734
 ZF000927
 ZF000038
 ZF000044
 ZF000082
 ZF001581
 ZF001610
 ZF001363