



Car Powertrain Technology

**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 01.04.2020** replaces all previous editions. The current list can be requested from any ZF after-sales service center or accessed on the Internet under www.aftermarket.zf.com/lubricants.

ZF Friedrichshafen AG
D-88038 Friedrichshafen
www.zf.com/contact

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 S6-50 | According to spare part number of vehicle manufacturer: - Fuchs Titan FFL-3 => ZF Oil No. 5961.308.363 (ZF LifeguardFluid 7.3 DCT) => BMW Oil No. 8322 2167 666 (MTF-LT-5) => Daimler Oil No. A 002 989 04 03 => 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 or - ExxonMobil Mobilube PTX FE 75W-80 => Porsche Oil No. N 052554 B0 |
| S7-48HL S7-57HL, S7-57HLA | According to spare part number of vehicle manufacturer: - ExxonMobil Mobilube PTX FE 75W-80 => Porsche Oil No. N 052554 B0 |

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 Titan FFL-3 => ZF Oil No. 5961.308.363 (ZF LifeguardFluid 7.3 DCT) => 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 Titan FFL-3 => ZF Oil No. 5961.308.363 (ZF LifeguardFluid 7.3 DCT) => Porsche Oil No. 999.917.080.00 |
| 8DT80, 8DT80A, 8DT80APH | According to spare part number of vehicle manufacturer: - Fuchs Titan FFL-8 => Porsche Oil No. 000.043.201.44 => Bentley Oil No. G 052524 B2 |
| 8DT55HL, 8DT55HLA 8DT80HLA | According to spare part number of vehicle manufacturer: 1. Clutch section Fuchs Titan FFL-8 => Porsche Oil No. 000.043.201.44 2. Transmission section ExxonMobil Mobilube PTX FE 75W-80 => Porsche Oil No. N 052554 B0 |

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

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|---|
| <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 semi-synthetic ATF oils. However, due to the many factors influencing the service life of transmissions in individual operation, ZF recommends an oil change after 150,000 km for its transmissions. In operating conditions with high temperatures and loads, or with unknown vehicle use in the past, it can make sense to change the transmission oil at shorter intervals.</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. 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. Please consider also the service specification of the vehicle manufacturer.</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
 CASTROL LTD, LONDON/GB
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUSSEVAC/RS
 ENI S.P.A., ROME/IT
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 INA MAZIVA LTD., ZAGREB/HR
 KOCAK PETROL URUNLERI SAN.VE TIC.LTD.STI, KOCAELI/TR
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE
 LIQUI MOLY GMBH, ULM/DE
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE
 MOTUL SA, AUBERVILLIERS/FR
 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
 UNIL OPAL, SAUMUR/FR

Trade name (11A)

AMOC POWER
 ATF DEXRON II
 ARAL GETRIEBEÖL ATF 22
 BP AUTRAN MBX
 ATF SUPER
 CASTROL ATF DEX II MULTIVEHICLE
 CASTROL TRANSMAX ATF DX II MULTIVEHICLE
 TEXAMATIC B
 TEXAMATIC 4291
 ATF DII
 AGIP ATF II D
 MOBIL ATF 220
 INA ATF SUPER
 SPEEDOL ATF DEXRON II
 Q8 AUTO Z3D
 LIEBHERR HYDRAULIC-GEAR ATF
 LIQUI MOLY ATF DEXRON IID
 MEGOL HYDRAULIKOEL ATF DEXRON II D
 MOTUL DEXRON II D
 LUKOIL ATF IID
 HIPOL ATF II D
 TUTELA TRANSMISSION STARFLUID HD-ED
 PRISTA ATF
 SHELL SPIRAX S2 ATF AX
 MATIC D

ZF approval number

ZF001702
 ZF001128
 ZF000147
 ZF000196
 ZF000593
 ZF000223
 ZF003358
 ZF001202
 ZF001574
 ZF001187
 ZF000925
 ZF000033
 ZF000248
 ZF000979
 ZF003726
 ZF002119
 ZF002052
 ZF001992
 ZF001104
 ZF001759
 ZF000081
 ZF000992
 ZF000355
 ZF000374
 ZF001071

Lubricant class 11B

Automatic Transmission Fluid (ATF)

Manufacturer (11B)

ARAL AG, BOCHUM/DE
BP PLC., LONDON/GB
CASTROL LTD, LONDON/GB
CASTROL LTD, LONDON/GB
EXXONMOBIL CORPORATION, HOUSTON, TX/US
EXXONMOBIL CORPORATION, HOUSTON, TX/US
FUCHS PETROLUB SE, MANNHEIM/DE
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
TOTAL LUBRIFIANTS S.A., NANTERRE/FR
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (11B)

ARAL GETRIEBEÖL ATF LD
BP AUTRAN LTF
CASTROL TRANSMAX Z
CASTROL TRANSMAX ATF Z
MOBIL ATF D 21065
MOBIL ATF LT 71141
FUCHS TITAN ATF 1
Q8 AUTO 15
FLUIDE AT 42
ZF LIFE GUARD FLUID 5

ZF approval number

ZF000144
ZF000195
ZF000221
ZF002158
ZF000038
ZF000044
ZF003602
ZF002269
ZF002100
ZF001363