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 01.07.2020 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

<table>
<thead>
<tr>
<th>Product groups</th>
<th>Approved lubricants for service fills</th>
</tr>
</thead>
</table>
| 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
                    => 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

<table>
<thead>
<tr>
<th>Product groups</th>
<th>Approved lubricants for service fills</th>
</tr>
</thead>
</table>
| 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  
   => 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  
   => Porsche Oil No. 999.917.080.00 |
| 8DT80, 8DT80A, 8DT80APH | According to spare part number of vehicle manufacturer:  
1. Clutch section  
   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

<table>
<thead>
<tr>
<th>Product groups</th>
<th>Approved lubricants for service fills</th>
</tr>
</thead>
</table>
| 3HP22, 3HP22Q, 4HP14Q, 4HP18FL, 4HP18FLE, 4HP18Q, 4HP18QE, 4HP22, 4HP22EH, 4HP22HL, 4HP24, 4HP24A | 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 |

**Warning:** use of incorrect lubricant can cause transmission failure

#### 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)

#### 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, 5HP19HL, 5HP19HLA, 5HP24, 5HP24A

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, 6HP19X

- MPL-dependent (main parts list)
- no longer available => replaced by ZF LifeguardFluid 5

#### 6HP19X - for Audi Q7, 6HP21, 6HP21X, 6HP26, 6HP26X, 6HP26A61, 6HP28, 6HP28X, 6HP28A61, 6HP32, 6HP32A, 6HP32X

According to spare part number of vehicle manufacturer:
- ZF LifeguardFluid 6 (ZF No. S671 090 255)
  => Audi / VW Oil No. G 057162 A1 / A2 / A6
  => BMW Oil No. 8322 9407807
  => 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 - MPL-dependent (main parts list)

- 6HP19X - for Audi Q7, 6HP26A61 - for vehicles equipped with Audi W12-engine
- no longer available => replaced by ZF LifeguardFluid 5

#### 6HP28, 6HP28X

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

#### 6HP19

- 8HP45, 8HP45X, 8HP45HIS, 8HP45XHIS
- 8HP50, 8HP50HIS, 8HP50X, 8HP50XHIS
- 8HP55A, 8HP55AHIS, 8HP55FL, 8HP55FLHIS, 8P55AH (2) 8P55FLH, 8HP65A, 8HP65AX
- 8HP70, 8HP70HIS, 8HP70XHIS, 8HP70L
- 8HP70X, 8HP75, 8HP75X, 8HP75XHIS
- 8HP90, 8HP90A, 8HP90X, 8HP90AHIS, 8HP90A74
- 8HP95A, 8HP95AX

According to spare part number of vehicle manufacturer:
- ZF LifeguardFluid 9 (ZF No. AA01.500.001)
  => 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
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

<table>
<thead>
<tr>
<th>Application</th>
<th>front-axle differential</th>
<th>rear-axle center differential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5</td>
<td>Castrol BOT851L</td>
<td></td>
</tr>
<tr>
<td>B9 (A4/A5)  TDI 260kW</td>
<td>Audi / VW / Porsche Oil No. N.052.190.D0, G.065.190.A2</td>
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</tr>
<tr>
<td>C8 (A6/A7)  TDI</td>
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<td></td>
</tr>
<tr>
<td>Q8 R4 + V6 TDI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Touareg R4 + V6 TDI</td>
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<tr>
<td>C8 (A6/A7) TFSI</td>
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</tr>
<tr>
<td>D5 (A8) V8</td>
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<tr>
<td>Q7</td>
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<td>Q8 V6 TFSI</td>
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<tr>
<td>Touareg V6 TFSI</td>
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</tbody>
</table>

(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 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.

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. Please consider also the service specification of the vehicle manufacturer.
### 6. Lubricant classes and approved trade products

#### Lubricant class 11A

Automatic Transmission Fluid (ATF)

<table>
<thead>
<tr>
<th>Manufacturer (11A)</th>
<th>Trade name (11A)</th>
<th>ZF approval number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALEXANDRIA MINERAL OILS COMPANY, ALEXANDRIA/EG</td>
<td>AMOC POWER</td>
<td>ZF001702</td>
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<tr>
<td>AMALIE PETROQUIMICA, MADRID/ES</td>
<td>ATF DEXRON II</td>
<td>ZF001128</td>
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<tr>
<td>ARAL AG, BOCHUM/DE</td>
<td>ARAL GETRIEBÖL ATF 22</td>
<td>ZF000147</td>
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<tr>
<td>BP PLC., LONDON/GB</td>
<td>BP AUTRAN MBX</td>
<td>ZF000196</td>
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<tr>
<td>BUCHER AG LANGENTHAL, LANGENTHAL/CH</td>
<td>ATF SUPER</td>
<td>ZF000193</td>
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<td>CASTROL LTD, LONDON/GB</td>
<td>CASTROL ATF DEX II MULTIVEHICLE</td>
<td>ZF000223</td>
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<td>CHEVRON LUBRICANTS, SAN RAMON, CA/US</td>
<td>CASTROL TRANSMAX ATF DX II MULTIVEHICLE</td>
<td>ZF000358</td>
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<td>ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUSEVAC/RS</td>
<td>ATF DII</td>
<td>ZF001157</td>
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<td>ENI S.P.A., ROME/IT</td>
<td>AGIP ATF II D</td>
<td>ZF000225</td>
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<td>EXXONMOBIL CORPORATION, HOUSTON, TX/US</td>
<td>MOBIL ATF 220</td>
<td>ZF000333</td>
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<td>INA MAZIVA LTD., ZAGREB/HR</td>
<td>INA ATF SUPER</td>
<td>ZF000248</td>
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<tr>
<td>KOCAK PETROL URUNLERI SAN VE TIC.LTD.STI, KOCAELI/TR</td>
<td>SPEEDOL ATF DEXRON II</td>
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<tr>
<td>KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL</td>
<td>Q8 AUTO Z30</td>
<td>ZF000376</td>
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<td>LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE</td>
<td>LIEBHERR HYDRAULIC-GEAR ATF</td>
<td>ZF002119</td>
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<td>LIQUI MOLY GMBH, ULM/DE</td>
<td>LIQUI MOLY ATF DEXRON IID</td>
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<td>MEGIUN GMBH &amp; CO. KG, SAARLOUIS/DE</td>
<td>MEGOL HYDRAULIKÖL ATF DEXRON II D</td>
<td>ZF001992</td>
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<tr>
<td>MOTUL SA, AUBERVILLY/FR</td>
<td>MOTUL DEXRON II D</td>
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<tr>
<td>OOO &quot;LK-INTERNATIONAL&quot;, MOSCOW/RU</td>
<td>LUKOIL ATF IID</td>
<td>ZF001759</td>
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<td>ORLEN OIL SP. Z O.O., KRAKOW/PL</td>
<td>HIPOL ATF II D</td>
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<td>PRISTA OIL HOLDING EAD, RUSE/BG</td>
<td>PRISTA ATF</td>
<td>ZF000355</td>
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<tr>
<td>SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB</td>
<td>SHELL SPIRAX S2 ATF AX</td>
<td>ZF000374</td>
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<tr>
<td>UNIL OPAL, SAUMUR/FR</td>
<td>MATIC D</td>
<td>ZF001071</td>
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## Lubricant class 11B
Automatic Transmission Fluid (ATF)

<table>
<thead>
<tr>
<th>Manufacturer (11B)</th>
<th>Trade name (11B)</th>
<th>ZF approval number</th>
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<tbody>
<tr>
<td>ARAL AG, BOCHUM/DE</td>
<td>ARAL GETRIEBOEL ATF LD</td>
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<td>BP PLC., LONDON/GB</td>
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<td>CASTROL TRANSMAX ATF Z</td>
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<td>FUCHS PETROLUB SE, MANNHEIM/DE</td>
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<td>ZF002269</td>
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<td>TOTAL LUBRIFIANTS S.A., NANTERRE/FR</td>
<td>FLUIDE AT 42</td>
<td>ZF002100</td>
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<td>ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE</td>
<td>ZF LIFEGUARDFLUID 5</td>
<td>ZF001363</td>
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