



**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-JUL-16** 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).

**ZF Friedrichshafen AG**  
D-88038 Friedrichshafen  
[www.zf.com/contact](http://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: - 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 S7-55HL, 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**

<b>Product groups</b>	<b>Approved lubricants for service fills</b>
7DT45HL, 7DT45HLA, 7DT45FL 7DT46HL, 7DT46HLA, 7DT46FL 7DT47HL 7DT55HL, 7DT55HLA, 7DT55FL 7DT70HLA 7DT71HLA 7DT72HLA	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 or => Porsche Oil No. 999.917.090.00
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 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

### 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 with Audi W12-engine <sup>(2)</sup> 6HP28AF <sup>(2)</sup> 8HP45, 8HP45X, 8HP55A <sup>(2)</sup> , 8HP70, 8HP70L, 8HP70X, 8HP90, 8HP90A <sup>(2)</sup> 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

##### **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. 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.

**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, KRUSĚVAC/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
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
TARIMSAN TARIM SAN. VE TIC. A.S, KOCAELI/TR	TARMOND ATF II	ZF000408
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  
 DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/DE  
 ENI S.P.A., ROME/IT  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/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