



**Manual transmissions, double-clutch transmissions
and automatic transmissions for cars**

List of lubricants TE-ML 11

Manual transmissions

Product groups	Approved lubricants for service fills
S5-31 S5-39	According to spare part number of vehicle manufacturer: - Esso Gear Oil 304 => BMW Oil No. 2300 1434 404 - BP Castrol BOT 338 => BMW Oil No. 2300 7533 513
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) - BP Castrol BOT 338 => BMW Oil No. 2300 7533 513 (clutch bell housing label MTF-LT2) - 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
S6-53	According to spare part number of vehicle manufacturer: - Esso Gear Oil 304 => BMW Oil No. 2300 1434 404 (clutch bell housing label MTF-LT1) - BP Castrol BOT 338 => BMW Oil No. 2300 7533 513 (clutch bell housing label MTF-LT2) => VW Oil No. N 05279800 - 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

Double-clutch transmissions

Product groups	Approved lubricants for service fills
7DT45HL 7DT45HLA 7DT45FL 7DT70HLA	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
7DT75 7DT75A	According to spare part number of vehicle manufacturer: Pentosin FFL-3 => Porsche Oil No. 999.917.080.00

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.

Note continuation on page 2 and maintenance recommendations ZF automatic transmissions page 3.

The list of lubricants TE-ML 11, Edition 01.10.2009 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 .	ZF Getriebe GmbH Südring D-66117 Saarbrücken phone: + 49 681 920-2497 fax: + 49 681 920-2388
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Automatic transmissions

Product groups	Approved lubricants for service fills (For maintenance recommendations see page 3)
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 BMW oil pan fill aperture label: 1. without oil pan fill aperture label Automatic Transmission Fluid (ATF) according to lubricant class 11B => Refer to the following pages for approved commercial products 2. with oil pan fill aperture label (green plugs) ZF Lifeguardfluid5 (ZF No. S671 090 170) => BMW Oil No. 8322 9407807 Warning: use of incorrect lubricant can cause transmission failure
5HP30	According to spare part number of vehicle manufacturer: 1. Shell ATF LA-2634 => BMW Oil No. 8322 9407765 (oil pan fill aperture label) 2. ZF Lifeguardfluid5 (ZF No. S671 090 170) => BMW Oil No. 8322 9407807 (oil pan fill aperture label) => Rolls Royce Oil No. PL 31493PA Warning: use of incorrect lubricant can cause transmission failure
4HP20, 5HP19, 5HP19FL (1), 5HP19FLA (2), 5HP19HL (1), 5HP19HLA (2), 5HP24, 5HP24A (2)	According to spare part number of vehicle manufacturer: ZF Lifeguardfluid5 (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, 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 Lifeguardfluid6 (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
6HP26A61 for vehicles with Audi W12-engine (2)	According to spare part number of vehicle manufacturer: ZF Lifeguardfluid6 Plus (ZF No. S671 090 281) => Audi / VW Oil No. G 055162 A1 / A2 / A6
6HP19A (2) 6HP19X for Audi Q7, 6HP28AF (2)	According to spare part number of vehicle manufacturer: ZF Lifeguardfluid8 (ZF No AA00 601 304) => Audi / VW Oil No. G 060162 A1 / A2 / A6 ATF

Note footnotes and maintenance recommendations ZF automatic transmissions page 3.

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 Q (Audi / VW Oil No. G 055145 A2)
 Common oil supply front /rear axle differential:
 - Filling with transmission oil Castrol SAF-AG4 Q (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

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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 and 6-speed as well as 4HP20 automatic transmissions: ZF 5 and 6-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:</p> <ul style="list-style-type: none"> - frequent highway driving in top speed range, - offensive, sporty driving style, - frequent trailer operation, <p>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.</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 ZF automatic transmissions 5HP18 and 5HP30 are exceptions and must be filled differently depending on the version.</p>
<p>The oils released in each case are specified in the ZF Lubricants List TE-ML 11.</p>

Lubricant class 11A

Automatic Transmission Fluid (ATF)

Manufacturer (11A)

ACPA, ALEXANDRIA/E
 AGIP SCHMIERTECHNIK GMBH, WÜRZBURG/D
 ALEXANDRIA MINERAL OILS COMPANY, ALEXANDRIA/ET
 ARAL AG, BOCHUM/D
 AVIA MINERALÖL-AG, MÜNCHEN/D
 BLASER SWISSLUBE AG, HASLE-RÜEGSAU/CH
 BP INTERNATIONAL, PANGBOURNE, READING/GB
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 CASTROL INTERNATIONAL, PANGBOURNE READING/GB
 CASTROL INTERNATIONAL, PANGBOURNE READING/GB
 CEPESA LUBRICANTS S.A., MADRID/E
 CEPESA LUBRICANTS S.A., MADRID/E
 CHEVRON BRASIL LTDA., RIO DE JANEIRO/BRAZIL
 CHEVRONTEXACO, GHENT/B
 CHEVRONTEXACO, GHENT/B
 CYCLON HELLAS S.A., MAROUSSI ATHENS/GR
 DE OLIEBRON B.V., ZWIJNDRECHT/NL
 ENI S.P.A. REFINING & MARKETING DIVISION, ROME/I
 EXXON MOBIL CORPORATION, FAIRFAX, VIRGINIA/USA
 EXXON MOBIL CORPORATION, FAIRFAX, VIRGINIA/USA
 FABRIKA MAZIVA FAM A.D. KRUEVAC/SRB
 FUCHS PETROLUB AG, MANNHEIM/D
 GENOL GMBH & CO., WIEN/A
 HANDEL MIJ NOVIOL B.V., NIJMEGEN/NL
 HUILES BERLIET S.A., SAINT PIERST/F
 HYDROTEX, CARROLLTON, TEXAS/USA
 IGOL FRANCE SA, AMIENS/F
 KOCAK PETROL URUNLERI SAN LTD., KOCAELI/TR
 KRAFFT S.L., ANDOAIN/E
 LIQUI MOLY GMBH, ULM/D
 MAZIVA ZAGREB D.O.O, ZAGREB/HR
 MEGUIN GMBH & CO. KG MINERALOELWERKE, SAARLOUIS/D
 MORRIS LUBRICANTS, SHREWSBURY/GB
 MOTUL SA, AUBERVILLIERS CEDEX/F
 OMV REFINING & MARKETING GMBH, WIEN/A
 OPET PETROLČULÜK A.S., IZMIR/TR
 PAKELO MOTOR OIL S.R.L, SAN BONIFACIO (VR)/I
 PANOLIN AG, MADETSWIL/CH
 PARS OIL CO, TEHRAN/IR
 PETROGAL S.A., LISBOA/P
 PETRONAS LUBRICANTS BELGIUM NV, AARTSELAAR/B
 PETRONAS LUBRICANTS BELGIUM NV, AARTSELAAR/B
 POWER INTERNATIONAL CHEMICAL & OIL CORPORATION
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/D
 REPSOL YPF LUBRICANTES Y ESPECIALIDADES, MADRID/E
 REPSOL YPF LUBRICANTES Y ESPECIALIDADES, MADRID/E
 S.A.E.L., MADRID/E
 SHELL INTERNATIONAL PETROLEUM COMP LTD, LONDON/GB
 TEDEX PRODUCTION SP.Z.O.O., TOMASZOW MAZOWIECKI/PL
 TOTAL LUBRIFIANTS S.A., PARIS/F
 TOTAL LUBRIFIANTS S.A., PARIS/F
 TOTAL LUBRIFIANTS S.A., PARIS/F
 UNIL OPAL, SAUMUR CEDEX/F
 VALVOLINE EUROPE, DORDRECHT/NL
 YPF S.A., ENSAENADA/RA

Trade name (11A)

ACPA ATF DEX IID
 AGIP ATF D 309
 AMOC POWER (D-21611)
 ARAL GETRIEBEOL ATF 22
 AVIA FLUID ATF 86
 ATF GM
 BP AUTRAN MBX
 MOTOREX ATF SUPER
 CASTROL TQ-D
 CASTROL TQ-D (22256)
 CEPESA ATF 70
 ERTOIL TRANSMISIONES AUTOMATICAS D2
 TEXAMATIC B
 TEXAMATIC 4291
 TEXAMATIC 9226
 ATF TYPE D
 TOR ATF 289
 AGIP ATF II D
 ESSO ATF D2
 MOBIL ATF 220
 ATF D II SAE 75W
 TITAN ATF 3000 CHINA
 GENOL ATF MULTIFLUID
 KENDALL ATF DEXRON II D
 RTO STARMATIC
 HY-TORQUE Z (ATF)
 ATF 420
 SPEEDOL ATF DEXRON II
 ATF D-21247 SAE 10W
 LIQUI MOLY ATF DEXRON IID
 INA ATF SUPER
 MEGOL HYDRAULIKOEL ATF DEXRON II D
 LIQUIMATIC D II
 MOTUL DEXRON II D
 OMV ATF D II (D22427)
 ATF DEXRON II
 PAKELO MULTIPURPOSE TRANSMISSION FLUID II D
 PANOLIN ATF MULTI 21996
 PARS ENTEGHAL AUTOMATIC
 GALP TRANSMATIC D II
 SUNAMATIC 149
 SUNAMATIC 153
 KA NASA KEN
 RAVENOL AUTOM.-GETR.-OEL DEXRON D II
 HIDRO ATF
 MATIC ATF
 GULF ATF D II D
 SHELL DONAX TA
 TEDEX ATF II D
 FINAMATIC II D
 TOTAL FLUIDE ATX
 TOTAL FLUIDE II D
 MATIC D
 VALVOLINE ATF TYPE D
 HIDRO ATF

Lubricant class 11B

Automatic Transmission Fluid (ATF)

Manufacturer (11B)

ADDINOL LUBE OIL GMBH, LEUNA/D
 AGIP SCHMIERTECHNIK GMBH, WÜRZBURG/D
 ARAL AG, BOCHUM/D
 BP INTERNATIONAL, PANGBOURNE, READING/GB
 CASTROL INTERNATIONAL, PANGBOURNE READING/GB
 DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/D
 DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/D
 EXXON MOBIL CORPORATION, FAIRFAX, VIRGINIA/USA
 EXXON MOBIL CORPORATION, FAIRFAX, VIRGINIA/USA
 EXXON MOBIL CORPORATION, FAIRFAX, VIRGINIA/USA
 EXXON MOBIL CORPORATION, FAIRFAX, VIRGINIA/USA
 KOMPRESSOL-OEL VERKAUFS GMBH, KÖLN/D
 KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL
 MORRIS LUBRICANTS, SHREWSBURY/GB
 OMV REFINING & MARKETING GMBH, WIEN/A
 ORLEN OIL SP. Z O.O., KRAKOW/PL
 PANOLIN AG, MADETSWIL/CH
 REPSOL YPF LUBRICANTES Y ESPECIALIDADES, MADRID/E
 TOTAL LUBRIFIANTS S.A., PARIS/F
 TOTAL LUBRIFIANTS S.A., PARIS/F
 YACCO, ST PIERRE LES ELBEUF/F
 ZELLER + GMELIN GMBH & CO., EISLINGEN/D
 ZF GETRIEBE GMBH, SAARBRÜCKEN/D

Trade name (11B)

ADDINOL ATF D III
 AGIP DEXRON III
 ARAL GETRIEBEÖL ATF LD
 BP AUTRAN LTF
 CASTROL TRANSMAX Z
 PENTOSIN ATF 1
 PENTOSIN ATF TYP 2 D
 ESSO ATF D 21065
 ESSO ATF LT 71141
 MOBIL ATF D 21065
 MOBIL ATF LT 71141
 KOMPRESSOL-DEXRON SYNTH LTF
 Q8 AUTO 15
 LIQUIMATIC SUPER ATF
 OMV ATF III
 HIPOL ATF III
 PANOLIN ATF DEXRON III
 REPSOL ATF 3
 FINAMATIC HP
 TOTAL FLUIDE AT 42
 YACCO ATF III
 DIVINOL FLUID III G
 ZF LIFEGUARDFLUID5