

**Axles and wheel heads for buses and trucks****List of lubricants TE-ML 12****Table of contents**

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**1. Axles and wheel heads for buses**

<b>Product group</b>	<b>Lubricant classes for service fills <sup>(1)</sup></b>
Axles A series, wheel heads RL series	<a href="#">ZF Ecofluid X SAE 80W-90</a> 12B / 12C / 12D / 12E / 12M / 12N
Low-floor offset axles AV series <b>without multi-disc self-locking differentials</b>	<a href="#">ZF Ecofluid X SAE 80W-90</a> 12B / 12E / 12M / 12N
Low-floor offset axles AV series <b>with multi-disc self-locking differentials</b>	12C / 12D
Grease-lubricated wheel bearings with individual mounts at the front and rear axles	12G
Compact bearings (hub unit) in the wheel heads at the front and rear axles	12H
General greasing points	12G
General greasing points Lubrication by means of centralized lubricating system	12P

**2. Electric axles for buses**

<b>Product group</b>	<b>Lubricant classes for service fills <sup>(1)</sup></b>
AVE 130	<a href="#">ZF Ecofluid X SAE 80W-90</a> 12L
Compact bearing (hub unit) in the wheel heads at the central and rear axles of the AVE 130	12H

The list of lubricants TE-ML 12, **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)

### 3. Axles for trucks

Product group	Lubricant classes for service fills <sup>(1)</sup>
APL 9000, APL 90	<a href="#">ZF Ecofluid X SAE 80W-90</a> 12B / 12E / 12M / 12N
Compact bearing (hub unit) in the wheel heads at the front axles of the APL 90	12H
General greasing points	12G

### 4. Oil level check, oil and grease change intervals

#### 4.1 Axles and wheel heads for buses (A, AV and RL series)

Lubricant class	Operating conditions	Oil level check	Oil change intervals	Oil change intervals Hot-country operation <sup>(3)</sup>
12B, 12E	Line operation City, suburban operation	With each engine-oil change	150.000 km / 100,000 miles / 3 years <sup>(2)</sup>	60.000 km / 40,000 miles / 1 year <sup>(2)</sup>
	Coaches		150.000 km / 100,000 miles / 3 years <sup>(2)</sup>	60.000 km / 40,000 miles / 1 year <sup>(2)</sup>
ZF Ecofluid X SAE 80W-90 12M, 12N	Line operation City, suburban operation		180.000 km / 110,000 miles / 3 years <sup>(2)</sup>	120.000 km / 80,000 miles / 2 years <sup>(2)</sup>
	Coaches		180.000 km / 110,000 miles / 3 years <sup>(2)</sup>	120.000 km / 80,000 miles / 2 years <sup>(2)</sup>
12C, 12D	Line operation		60.000 km / 40,000 miles / 1 year <sup>(2)</sup>	-

Grease class	Operating conditions	Check	Change interval
12H - Compact bearings (hub unit) in the wheel heads at the front and rear axles	Line, suburban operation	Refer to ZF operating instructions	500.000 km / 310,000 miles / 4 years <sup>(2)</sup>
	Coaches		800.000 km / 500,000 miles / 6 years <sup>(2)</sup>
12G - Grease-lubricated wheel bearings with individual mounts at the front and rear axles	Line, suburban operation, Coaches		500.000 km / 310,000 miles / 2 years <sup>(2)</sup>
12G - General greasing points	Line, suburban operation, Coaches		Relubrication 80.000 km / 50,000 miles / 1 year <sup>(2)</sup>
12P - General greasing points Lubrication by means of centralized lubricating system	Line, suburban operation, Coaches	Regular check of all lubricating points for escaping fresh grease	Observe provisions of centralized lubricating system manufacturer

**4.2 Electric axles for buses (AVE 130)**

Lubricant class	Operating conditions	Oil level check	Oil change intervals
ZF Ecofluid X SAE 80W-90 12L	Line operation	Refer to ZF operating instructions	60.000 km / 40,000 miles / 1 year <sup>(2)</sup>





Grease class	Operating conditions	Check	Change interval
12H - Compact bearing (hub unit) in the wheel heads at the central and rear axles of the AVE 130	Line operation	Refer to ZF operating instructions	500.000 km / 310,000 miles / 4 years <sup>(2)</sup>

**4.3 Axles for trucks (APL 9000, APL 90)**

Lubricant class	Operating conditions	Oil level check	Oil change intervals
ZF Ecofluid X SAE 80W-90 12B, 12E, 12M, 12N	-	With each engine-oil change	Initial oil change after 10 000 km / 7,000 miles Subsequent oil change interval 120.000 km / 80,000 miles / 2 years <sup>(2)</sup>

Grease class	Operating conditions	Check	Change interval
12H - Compact bearing (hub unit) in the wheel heads at the front axles of the APL 90	-	Refer to specifications provided by the vehicle manufacturer	500.000 km / 310,000 miles / 4 years <sup>(2)</sup>
12G - General greasing points	-		Relubrication according to the specifications provided by the vehicle manufacturer

**5. Low temperatures limits**

Viscosity grades	Use at outside temperatures
SAE 75W-90, 75W-110, 75W-140	- 40°C 
SAE 80W-90, 80W-110, 80W-140	- 26°C 
SAE 85W-90, 85W-110, 85W-140	- 12°C 
SAE 90	- 5°C 

## 6. Explanation of footnotes and comments

### Footnotes

- (1) **Refer to the following pages for approved commercial products.  
Pay due attention to the note on oil level check, oil and grease change intervals, and low temperature limits on Pages 2 and 3.**  
When changing the oil type within one lubricant class or to another lubricant class, mixing of the new oil with the residual oil in the axle is permitted.
- (2) Change required, depending on what occurs first.
- (3) The denomination „hot country use“ is derived from the area where the vehicle is used, rather than from a country in the sense of a state.  
Regarding ZF units, we say "Hot country use" when:
1. the monthly average temperature exceeds 25°C in more than 2 months within a year
  2. or if temperatures rise above 40°C on more than 7 days in a year
- Examples for possible countries or regions are:
- America: Mexico, USA (South and deserts)
  - Whole Africa (without South Africa)
  - Middle East: Bangladesh, India (regional), Pakistan, Afghanistan, Sri Lanka
  - Near East: Iran, Iraq, Kuwait, Bahrain, Oman, Qatar, Saudi-Arabia, United Arab Emirates, Yemen, Israel, Lebanon, Syria, Egypt, Jordan
  - Australia (deserts)
  - China (deserts)

### 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.

## 7. Lubricant classes and approved trade products

### Lubricant class 12B

Transmission oil

Viscosity grades: SAE 75W-90 / 75W-110 / 75W-140

#### Manufacturer (12B)

ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ARAL AG, BOCHUM/DE  
 ARAL AG, BOCHUM/DE  
 BASF SE, LUDWIGSHAFEN/DE  
 BASF SE, LUDWIGSHAFEN/DE  
 BUCHER AG LANGENTHAL, LANGENTHAL/CH  
 CASTROL LTD, LONDON/GB  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE

#### Trade name (12B)

ADDINOL GETRIEBEÖL GH 75W-90 SL  
 ARAL GETRIEBEÖL BS 75W-90  
 ARAL GETRIEBEÖL SNA-C 75W-90  
 EMGARD UAF 4209  
 EMGARD RW-A, SAE 75W-90  
 MOTOREX PENTA TL SAE 75W90  
 CASTROL SYNTRAX LONG LIFE 75W-90  
 LUKOIL TRANSMISSION SYNTH BSX 75W-90  
 SRS GETRIEBEFLUID AFS

#### ZF approval number

ZF000819  
 ZF000133  
 ZF000134  
 ZF000363  
 ZF000917  
 ZF000578  
 ZF000230  
 ZF001763  
 ZF000826

**Lubricant class 12C**

Transmission oil with limited-slip additives

Viscosity grades: SAE 80W-90 / 80W-110 / 80W-140 / 85W-90 / 85W-110 / 85W-140 / 90

**Manufacturer (12C)**

ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ARAL AG, BOCHUM/DE  
 AVISTA OIL REFINING & TRADING DEUTSCHLAN, UETZE/DE  
 BAYWA AG MÜNCHEN, MÜNCHEN/DE  
 BP PLC., LONDON/GB  
 BP PLC., LONDON/GB  
 BUCHER AG LANGENTHAL, LANGENTHAL/CH  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CEPSA COMERCIAL PETRÓLEO, MADRID/ES  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CLAAS KGAA MBH, HARSEWINKEL/DE  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU  
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU  
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU  
 GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE  
 GRUPA LOTOS S.A., GDANSK/PL  
 GRUPA LOTOS S.A., GDANSK/PL  
 GS CALTEX CORPORATION, SEOUL/KR  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 HARMS MINERALÖLE, PRISDORF/DE  
 HINDUSTAN PETROLEUM CORPORATION LTD., MUMBAI/IN  
 INA MAZIVA LTD., ZAGREB/HR  
 INDIAN OIL CORPORATION LTD, MUMBAI/IN  
 INDIAN OIL CORPORATION LTD, MUMBAI/IN  
 JOHN DEERE, MOLINE, ILLINOIS/US  
 JOHN DEERE, MOLINE, ILLINOIS/US  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE  
 LIQUI MOLY GMBH, ULM/DE  
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MORRIS LUBRICANTS, SHREWSBURY/GB  
 NORTHLAND PRODUCTS COMPANY, WATERLOO, IOWA/US  
 NORTHLAND PRODUCTS COMPANY, WATERLOO, IOWA/US  
 NOVA STILMOIL SPA, MODENA/IT  
 OMV PETROL OFISI A.S., ISTANBUL/TR  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT  
 PANOLIN AG, MADETSWIL/CH  
 PETROGAL S.A., LISBOA/PT  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PHI OIL GMBH, ST. GEORGEN/AT  
 PROFIL-TECH GMBH, FRIEDRICHSHAFEN/DE  
 PTT PUBLIC COMPANY LIMITED, BANGKOK/TH  
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 RN-LUBRICANTS, LLC, MOSCOW/RU  
 RN-LUBRICANTS, LLC, MOSCOW/RU  
 RN-LUBRICANTS, LLC, MOSCOW/RU  
 SASOL OIL, RANDBURG/ZA  
 SAVITA OIL TECHNOLOGIES LIMITED, MUMBAI/IN  
 SAVITA OIL TECHNOLOGIES LIMITED, MUMBAI/IN  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 UNIL OPAL, SAUMUR/FR  
 VALVOLINE CUMMINS PVT LIMITED, GURGAON/IN  
 YACCO SAS, ST PIERRE LES ELBEUF/FR

**Trade name (12C)**

ADDINOL GETRIEBEÖL GH 85W-90 LS  
 ADDINOL GETRIEBEÖL GH 80W-90 LS  
 ARAL GETRIEBEÖL HYP LS 85W-90  
 PENNASOL LIMITED SLIP HYPOID GEAR OIL LS SAE 90  
 TECTROL MULTIGEAR LS 90  
 BP ENERGEGEAR LIMSLIP 90  
 BP ENERGEGEAR LIMSLIP 90  
 MOTOREX UNIVERSAL LS SAE 90  
 CASTROL AXLE Z LIMITED SLIP 90  
 CASTROL AXLE Z LIMITED SLIP 90  
 CASTROL AXLE Z LIMITED SLIP 85W-90  
 CEPSA AURIGA LS PLUS 80W-90  
 GEAR OIL ZF SAE 80W-90  
 GEARTEX LS 80W-90  
 GEARTEX LS 85W-90  
 GEARTEX LS SAE 85W-140  
 CLAAS AGRISHIFT BLS 90  
 MOBILUBE LS 85W-90  
 ESSO GEAR OIL LSA LS 85W-90  
 FUCHS TITAN GEAR LS SAE 90  
 G-TRUCK LS 80W-90  
 G-TRUCK LS 85W-140  
 G-TRUCK LS 85W-90  
 OEST GETRIEBEÖL HYPOID LS 90  
 LOTOS TITANIS LS GL-5 80W-90  
 LOTOS TITANIS LS GL-5 SAE 85W-140  
 DOOSAN LS GEAR OIL 80W90  
 GULF GEAR LS 90  
 OILFINO VARIUS G 400LS 85W-90  
 HP GEAR OIL ZFL 80W 90 LS  
 INA HIPENOL GTL LS 90  
 SERVO GEAR SUPER LS 90  
 SERVO GEAR SUPER LS 80W-90  
 JOHN DEERE GL-5 GEAR LUBRICANT W/LS ADD 80W-90  
 JOHN DEERE GL-5 GEAR LUBRICANT W/LS ADD 85W-140  
 Q8 T 45 SAE 90  
 LIEBHERR GEAR BASIC 90 LS  
 LIQUI MOLY HYPOID-GETRIEBEÖL PLUS GL 5 LS 85W-90  
 MEGOL HYPOID-GETRIEBEÖL AXLE LS SAE 85W-90  
 MOL HYKOMOL LS 85W140  
 MOL HYKOMOL LS 85W90  
 TERRAIN LS 80W-90  
 POSI-GRIP JDZF 80W90  
 POSI-GRIP JDZF 85W140  
 GEARING WONDER LS SAE 85W90  
 MAXIGEAR EP-X 85W-90LS  
 LUKOIL TRANSMISSION LS TM-5 80W-90  
 LUKOIL TRANSMISSION LS 85W-90  
 PLATINUM GEAR LS 80W-90  
 PLATINUM AGRO LS 80W-90  
 PLATINUM GEAR LS 85W-140  
 UNIVERSAL GEAR EP LS SAE 85W/90  
 PANOLIN SUPER DUTY LS 90  
 GALP LS 90  
 AMBRA AXF 80W-90 (SAE 80W-90)  
 AKCELA AXLEPOWER (SAE 80W-90)  
 AKROS AXLEGEAR 80W-90 (SAE 80W-90)  
 TUTELA TRANSMISSION W90/LS (SAE 80W-90)  
 ARBOR TTF (SAE 80W-90)  
 SUPERGEAR BRONZE 85W90 LS  
 PROFIL-CAR PERFORMANCE GEAR SAE 90 LIMITED SLIP LS  
 PTT LIMITED SLIP (SAE 80W-90)  
 RAVENOL SPERRDIFF.-GETR.-OEL LS 90  
 REPSOL CARTAGO EP AUTOBLOCANTE SAE 80W90  
 TNK TRANS GIPOID LS 80W-90  
 TNK TRANS GIPOID LS 85W-90  
 TNK TRANS GIPOID LS SAE 90  
 SASOL DIFFERENTIAL OIL LIMITED SLIP 80W-90  
 SAVSOL AUTOGEAR 85W140 LIMITED SLIP GL5  
 SAVSOL AUTOGEAR 90 LIMITED SLIP GL-5  
 SHELL SPIRAX S3 ALS 80W-90  
 SINOPEC GREATWALL ZLS GL-5 85W/90  
 SRS WIOLIN RSH  
 TOTAL DYNATRANS DA 80W-90  
 TOTAL DYNATRANS DA 85W-140  
 TOTAL DYNATRANS LS 80W-90  
 ELF TRACTELF BLS 80W-90  
 FINA TRANSFLUID LS 80W-90  
 GULF LS REAR AXLE 80W-90  
 GEAR AB-EP 85W90  
 GEAR DURA 80W90 LS  
 BVX LS 200 80W-90

**ZF approval number**

ZF000629  
 ZF000703  
 ZF000465  
 ZF000844  
 ZF001167  
 ZF000206  
 ZF001953  
 ZF000727  
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 ZF000442  
 ZF001255  
 ZF001512  
 ZF001545  
 ZF001546  
 ZF001547  
 ZF001548  
 ZF000526  
 ZF001465  
 ZF001614

**Lubricant class 12D**

Transmission oil with limited-slip additives

Viscosity grades: SAE 75W-90 / 75W-110 / 75W-140

**Manufacturer (12D)**

ARAL AG, BOCHUM/DE  
CASTROL LTD, LONDON/GB  
EXXONMOBIL CORPORATION, HOUSTON, TX/US

**Trade name (12D)**

ARAL GETRIEBEÖL BS-LSX 75W-140  
CASTROL SYNTRAX LIMITED SLIP 75W-140  
GEARLUBE VS 500

**ZF approval number**

ZF000140  
ZF000269  
ZF000851

**Lubricant class 12E**

Transmission oil

Viscosity grades: SAE 80W-90 / 80W-110 / 80W-140 / 85W-90 / 85W-110 / 85W-140 / 90

**Manufacturer (12E)**

ARAL AG, BOCHUM/DE  
 BAHRAIN PETROLEUM COMPANY, AWALI /BH  
 BP PLC., LONDON/GB  
 BP PLC., LONDON/GB  
 BUCHER AG LANGENTHAL, LANGENTHAL/CH  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CEPESA COMERCIAL PETRÓLEO, MADRID/ES  
 CEPESA COMERCIAL PETRÓLEO, MADRID/ES  
 CEPESA COMERCIAL PETRÓLEO, MADRID/ES  
 CYCLON HELLAS SA, ATHENS/GR  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU  
 GERMAN MIRROR LUBRICANTS AND GREASES, SHARJAH/AE  
 GERMAN MIRROR LUBRICANTS AND GREASES, SHARJAH/AE  
 HUILES BERLIET S.A., SAINT-PRIEST/FR  
 INGRAX INDUSTRIA E COMERCIO DE GRAXA S/A, DUQUE DE CAXIAS/BR  
 MOL-LUB KFT, ALMASFUZITO/HU  
 MORRIS LUBRICANTS, SHREWSBURY/GB  
 MORRIS LUBRICANTS, SHREWSBURY/GB  
 OMV PETROL OFISI A.S., ISTANBUL/TR  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 QATAR LUBRICANTS COMPANY, DOHA/QA  
 RN-LUBRICANTS, LLC, MOSCOW/RU  
 RN-LUBRICANTS, LLC, MOSCOW/RU  
 RN-LUBRICANTS, LLC, MOSCOW/RU  
 RN-LUBRICANTS, LLC, MOSCOW/RU  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 TEXSA DO BRASIL LTDA, UMUARAMA/PR/BR  
 TEXSA DO BRASIL LTDA, UMUARAMA/PR/BR  
 TEXSA DO BRASIL LTDA, UMUARAMA/PR/BR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
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 TOTAL LUBRIFIANTS S.A., NANTERRE/FR

**Trade name (12E)**

ARAL GETRIEBEÖL HYP 85W-140  
 SPAREX EP 85W-140 GL-5  
 BP ENERGEGEAR HYPO 85W-140  
 BP ENERGEGEAR HYPO 80W-90  
 GEAR OIL HYPOID SAE80W/90  
 CASTROL AXLE EPX 85W-140  
 CASTROL AXLE EPX 80W-90  
 CASTROL AXLE EPX 80W-90  
 CASTROL AXLE EPX 80W-90  
 CEPESA TRANSMISIONES EP 80W-90  
 CEPESA TRANSMISIONES EP 85W-140  
 MAN SUPER AXLE 342-M2  
 GEAR EP GL-5 80W-90  
 FUCHS TITAN SUPERGEAR SAE 80W-90  
 FUCHS TITAN SUPERGEAR SAE 85W-140  
 GAZPROMNEFT GL-5 80W-90  
 MIRR GEAR OIL API GL-5 SAE 80W90  
 MIRR GEAR OIL API GL-5 SAE 85W90  
 RTO HD 80W-90  
 MULTIGEROL 85W140  
 MOL HYKOMOL ZF 80W90  
 EP 80W-90 GEAR OIL  
 EP 85W-140  
 MAXIGEAR EP-X 80W-90  
 LUKOIL TRANSMISSION TM-5 SAE 80W-90  
 LUKOIL TRANSMISSION TM-5 SAE 85W-140  
 ARBOR TRW 90 (SAE 80W-90)  
 ARBOR TRW 140 (SAE 85W-140)  
 AMBRA HYPOIDE 90 (SAE 80W-90)  
 AKCELA GEAR 135H EP (SAE 80W-90)  
 AKROS GEAR EP 90 (SAE 80W-90)  
 AMBRA HYPOIDE 140 (SAE 85W-140)  
 AKCELA GEAR 135H EP (SAE 85W-140)  
 TUTELA TRANSMISSION W90/LA (SAE 80W-90)  
 ARBOR TRW 90 (SAE 80W-90)  
 QALCO SUPER GEAR OIL ZX 85W-140  
 TNK TRANS GIPOID 85W-140  
 TNK TRANS GIPOID 85W-90  
 TNK TRANS GIPOID 80W-90  
 ROSNEFT KINETIC 80W-90  
 SHELL SPIRAX S3 AS 80W-140  
 SRS WIOLIN HL 5 SAE 80W-90  
 SRS WIOLIN HL 5 SAE 85W-90  
 TEXSA GEAR MULTI GL-5 85W140  
 TEXSA GEAR MULTI GL-5 90  
 TEXSA GEAR MULTI GL-5 80W90  
 TOTAL TRANSMISSION TM 85W-140  
 FINA PONTONIC MP 85W-140  
 TOTAL EP B 85W-140  
 TOTAL EP-B 80W-90  
 TOTAL TRANSMISSION AXLE 7 80W-90  
 TOTAL TRANSMISSION AXLE 7 85W-140  
 FINA PONTONIC MP 80W-90  
 ELF TRANSELF TYPE B 80W-90  
 ELAN TRANS EPR 80W-90

**ZF approval number**

ZF000930  
 ZF001691  
 ZF000865  
 ZF001321  
 ZF002005  
 ZF000910  
 ZF001320  
 ZF001754  
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 ZF002070  
 ZF002071  
 ZF002072



**Lubricant class 12G**

Multi-purpose grease in accordance with specification

- DIN 51825 classification at least KP2K-20

- ISO 6743-9 classification at least ISO-L-XBCEB2

(Base oil API Group 1 / 2 / 3 / 4, EP additive, lithium-saponified, temperature operation limits: min. -20°C to +120°C, NLGI Class 2).

The recommended greases are listed in ZF Service Information 54/01d and 54/01e.

**Note:**

All trade products which satisfy the above specifications may be used. There will be no product listing.

**Lubricant class 12H**

Lubricating grease for long-term lubrication of compact bearings (Hub Unit)

**Manufacturer (12H)**FUCHS PETROLUB AG, MANNHEIM/DE  
FUCHS PETROLUB AG, MANNHEIM/DE  
FUCHS PETROLUB AG, MANNHEIM/DE**Trade name (12H)**RENOLIT LX-PEP 2  
RENOLIT LX-N EP 2  
RENOLIT LX-NHU 2

**Lubricant class 12L**

Transmission oil

Viscosity grades: SAE 75W-90 / 80W-90

**Manufacturer (12L)**

ADDINOL LUBE OIL GMBH, LEUNA/DE  
 ARAL AG, BOCHUM/DE  
 ARAL AG, BOCHUM/DE  
 ARAL AG, BOCHUM/DE  
 BASF SE, LUDWIGSHAFEN/DE  
 BAYWA AG MÜNCHEN, MÜNCHEN/DE  
 BP PLC., LONDON/GB  
 BP PLC., LONDON/GB  
 BP PLC., LONDON/GB  
 BUCHER AG LANGENTHAL, LANGENTHAL/CH  
 BUCHER AG LANGENTHAL, LANGENTHAL/CH  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CASTROL LTD, LONDON/GB  
 CEPSA COMERCIAL PETRÓLEO, MADRID/ES  
 CEPSA COMERCIAL PETRÓLEO, MADRID/ES  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CONDAT LUBRIFIANTS, CHASSE SUR RHONE/FR  
 DE OLIEBRON BV, ZWIJNDRECHT/NL  
 DEEP OIL TRADING COMPANY LLP, LONDON/GB  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FABRIKA MAZIVA FAM AD, KRUSĚVAC/RS  
 FABRIKA MAZIVA FAM AD, KRUSĚVAC/RS  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU  
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU  
 GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE  
 GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE  
 GRUPA LOTOS S.A., GDANSK/PL  
 GRUPA LOTOS S.A., GDANSK/PL  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 HUILES BERLIET S.A., SAINT-PRIEST/FR  
 HUILES BERLIET S.A., SAINT-PRIEST/FR  
 IGOL FRANCE, AMIENS/FR  
 IGOL FRANCE, AMIENS/FR  
 INA MAZIVA LTD., ZAGREB/HR  
 INA MAZIVA LTD., ZAGREB/HR  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 LIEBHERR HYDRAULIKBAGGER GMBH, KIRCHDORF/DE  
 LIQUI MOLY GMBH, ULM/DE  
 LIQUI MOLY GMBH, ULM/DE  
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE  
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE  
 MOTUL SA, AUBERVILLIERS/FR  
 NIS AD, NOVI SAD/RS  
 NIS AD, NOVI SAD/RS  
 OMV PETROL OFISI A.S., ISTANBUL/TR  
 OMV PETROL OFISI A.S., ISTANBUL/TR  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 ORLEN OIL SP. Z O.O., KRAKOW/PL  
 OY TEBOIL AB, HELSINKI/FI  
 OY TEBOIL AB, HELSINKI/FI  
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)IT  
 PANOLIN AG, MADETSWIL/CH  
 PANOLIN AG, MADETSWIL/CH  
 PETROGAL S.A., LISBOA/PT  
 PETROGAL S.A., LISBOA/PT  
 PETROMIN CORPORATION, JEDDAH/SA  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PHI OIL GMBH, ST. GEORGEN/AT  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 SASOL OIL, RANDBURG/ZA  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB

**Trade name (12L)**

ADDINOL GETRIEBEÖL GX 80W-90 ML  
 ARAL GETRIEBEÖL SNA-D 80W-90  
 ARAL GETRIEBEÖL SNA-E 75W-90  
 ARAL GETRIEBEÖL EP PLUS 80W-90  
 EMGARD UAF 7105  
 TECTROL MULTIGEAR PLUS 8090  
 BP ENERGEGEAR HT 80W-90  
 BP ENERGEGEAR HYPO XL 80W-90  
 BP ENERGEGEAR SHX-M 75W-90  
 UNISYNT ZX SAE 75W90  
 GEAR ZX TP SAE 80W/90  
 CASTROL SYNTRAX UNIVERSAL 80W-90  
 CASTROL AXLE LONG DRAIN 80W-90  
 SYNTRAX UNIVERSAL PLUS 75W-90  
 CEPSA TRANSMISIONES EP FE+LD 75W-90  
 MAN SUPER AXLE 3343 75W-90  
 MULTIGEAR 80W-90  
 MULTIGEAR S 75W-90  
 GEAR TXS 75W90  
 TOR UNI GEAR LD 75W90  
 DRIVE RW FORCE S GL-5 75W-90  
 MOBILUBE 1 SHC 75W-90  
 MOBILUBE HD-A PLUS 80W-90  
 MOBIL DELVAC SYNTHETIC GEAR OIL 75W-90  
 MOBILUBE S 80W-90  
 MOBIL DELVAC 1 GEAR OIL 75W-90  
 MULTIHIPPO 75W-90 SINT  
 MULTIHIPPO 80W-90 F PLUS  
 FUCHS TITAN CYTRAC HSY SAE 75W-90  
 FUCHS TITAN GEAR HYP LD SAE 80W-90  
 FUCHS TITAN SUPERGEAR MC SAE 80W-90  
 FUCHS TITAN CYTRAC RR SAE 75W-90  
 G-TRUCK GL-4/GL-5 80W-90  
 G-BOX GL-4/GL-5 75W-90  
 OEST SYNTH GETRIEBEÖL SAE 75W-90  
 OEST GETRIEBEÖL FE SAE 80W-90 GL4/5  
 TITANIS SUPER GL-5 75W90  
 TITANIS SUPER GL-5 80W-90  
 GULF GEAR TDL 80W-90  
 GULF SYNGEAR 75W-90  
 GULF GEAR LD 80W-90  
 GULF GEAR LD 80W-90  
 RTO LONGEVIA TC ECO 80W-90  
 RTO LONGEVIA TCX ECO 75W-90  
 SYNTHEGEAR 75W-90  
 GEAR M 80W-90  
 INA HIPENOL TDL 80W-90  
 INA HIPENOL SHD 75W-90  
 Q8 GEAR OIL XG SAE 80W-90  
 Q8 TRANS XGS 75W-90  
 LIEBHERR SYNTOGEAR PLUS 75W-90  
 LIQUI MOLY HYPOID GETRIEBEÖL TDL SAE 80W-90  
 LIQUI MOLY VOLLSYN. HYPOID GETR.ÖL TRUCK (75W-90)  
 MEGOL HYPOID-GETRIEBEOEL TDL 80W-90  
 MEGOL GETRIEBEOEL TRUCK-SYNTH SAE 75W-90  
 MOTUL GEAR SYNTH TDL 75W-90  
 NISOTEC HIPO LD ZF SAE 80W-90  
 NISOTEC HIPO SINT TDL SAE 75W-90  
 MAXIGEAR D 75W-90  
 MAXIGEAR TECH EP-X 80W-90  
 LUKOIL TRANSMISSION TM-4/5 75W-90  
 LUKOIL TRANSMISSION UNI 80W-90  
 LUKOIL TRANSMISSION UNI S 75W-90  
 PLATINUM GEAR LL 80W-90  
 TEBOIL HYPOID SAE 75W-90  
 TEBOIL HYPOID SAE 80W-90  
 GLOBAL MULTIGEAR TS SAE 75W/90  
 PANOLIN TOPGEAR 80W/90  
 PANOLIN SUPER DUTY SYNTH 75W/90  
 GALP TRANSVEX TDL 75W90  
 GALP TRANSOIL HP XT 80W90  
 PETROMIN GEAR BOX Z12 SAE 80W90  
 TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)  
 TUTELA TRANSMISSION FE-AXLE (SAE 75W-90)  
 TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)  
 UNIGEAR GOLD 75W90  
 REPSOL CARTAGO FE LD 75W90  
 REPSOL CARTAGO LD 80W90  
 SYN GEAR DIFFERENTIAL OIL 75W-90  
 SHELL SPIRAX S6 AXME 75W-90  
 SHELL SPIRAX S3 AD 80W-90  
 SHELL SPIRAX S6 AXME 75W-90  
 SHELL SPIRAX S3 AM 80W-90  
 SHELL SPIRAX S6 AXME 75W-90

**ZF approval number**

ZF000672  
 ZF000135  
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 ZF001262  
 ZF001292  
 ZF001433

**Manufacturer (12L)**

SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 STATOIL LUBRICANTS, STOCKHOLM/SE  
 STATOIL LUBRICANTS, STOCKHOLM/SE  
 TEDEX S.A., WARSZAWA/PL  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 VALVOLINE AUSTRALIA PTY LTD, WETHERILL PARK, NSW/AU  
 VALVOLINE EMEA, DORDRECHT/NL  
 VALVOLINE EMEA, DORDRECHT/NL  
 VALVOLINE EMEA, DORDRECHT/NL  
 VEEDOL INTERNATIONAL LIMITED, GLASGOW/GB  
 VIAL OIL LTD., FRYAZINO/RU  
 VIAL OIL LTD., FRYAZINO/RU  
 YACCO SAS, ST PIERRE LES ELBEUF/FR  
 YORK LUBRICANTS - GINOUVES SAS, LA GARDE/FR  
 ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE  
 ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

**Trade name (12L)**

SINOPEC GREATWALL VT 75W/90  
 SRS GETRIEBFLUID SML 80W-90  
 SRS GETRIEBFLUID SXL 75W-90  
 GEARWAY S5 75W-90  
 GEARWAY G5 80W-90  
 TEDEX SUPER GEAR OIL (TDL) SAE 80W-90  
 TOTAL TRANSMISSION XPM 80W-90  
 TOTAL TRANSMISSION SYN FE 75W-90  
 FINA PONTONIC FDL 75W-90  
 ELF TRANSELF SYNTHESE FE 75W-90  
 TOTAL TRANSMISSION DUAL 9 FE 75W-90  
 TOTAL TRANSMISSION AXLE 9 80W-90  
 GEAR OIL GL-5 XTREME SAE 80W-90  
 VALVOLINE HEAVY DUTY TDL PRO 75W-90  
 VALVOLINE HEAVY DUTY AXLE OIL PRO 80W-90 LD  
 VALVOLINE HEAVY DUTY AXLE OIL PRO 80W-90  
 VEEDOL TRANSMISSION SYNTHETIC LD 75W-90  
 CONSOL TRANS LUX 80W-90  
 CONSOL TRANS LUX 75W-90  
 BVX 1000 75W-90  
 YORK 896 75W90  
 DIVINOL MULTI-AXLE 80W90  
 ZF-ECOFLUID X SAE 80W-90

**ZF approval number**

ZF000527  
 ZF000447  
 ZF001655  
 ZF001030  
 ZF001036  
 ZF001342  
 ZF000484  
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 ZF001869  
 ZF001629  
 ZF000587  
 ZF000591  
 ZF001612  
 ZF000550  
 ZF001684  
 ZF001266

**Lubricant class 12M**

Transmission oil

Viscosity grades: SAE 80W-90 / 80W-110 / 80W-140 / 85W-90 / 85W-110 / 85W-140 / 90

**Manufacturer (12M)****Trade name (12M)****ZF approval number**

ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL GETRIEBEÖL GX 80W-90 ML	ZF000672
ARAL AG, BOCHUM/DE	ARAL GETRIEBEÖL SNA-D 80W-90	ZF000135
ARAL AG, BOCHUM/DE	ARAL GETRIEBEÖL EP PLUS 80W-90	ZF000460
BAYWA AG MÜNCHEN, MÜNCHEN/DE	TECTROL MULTIGEAR PLUS 8090	ZF001160
BP PLC., LONDON/GB	BP ENERGEAR HT 80W-90	ZF000200
BP PLC., LONDON/GB	BP ENERGEAR HYPO XL 80W-90	ZF000205
BUCHER AG LANGENTHAL, LANGENTHAL/CH	GEAR ZX TP SAE 80W/90	ZF001721
BUCHER AG LANGENTHAL, LANGENTHAL/CH	GEAR ZX TP SAE 80W/140	ZF001722
CASTROL LTD, LONDON/GB	CASTROL SYNTRAX UNIVERSAL 80W-90	ZF000227
CASTROL LTD, LONDON/GB	CASTROL AXLE LONG DRAIN 80W-90	ZF000229
CHEVRON LUBRICANTS, SAN RAMON, CA/US	MULTIGEAR 80W-90	ZF000812
CHEVRON LUBRICANTS, SAN RAMON, CA/US	MULTIGEAR PREMIUM EP SAE 85W-140	ZF001196
CHEVRON LUBRICANTS, SAN RAMON, CA/US	RPM UNIVERSAL GEAR LUBRICANT SAE 80W-90	ZF001238
CHEVRON LUBRICANTS, SAN RAMON, CA/US	HUBAN GL-5 EP SAE 85W-140	ZF001800
DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/DE	PENTOSIN GETRIEBEÖL O-226 80W-90	ZF001195
DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/DE	PENTOSIN TRX 85W-110	ZF001532
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILUBE HD-A PLUS 80W-90	ZF000042
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC SYNTHETIC GEAR OIL 80W-140	ZF000769
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILUBE S 80W-90	ZF000776
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC 1 GEAR OIL 80W-140	ZF001682
FABRIKA MAZIVA FAM AD, KRUSĚVAC/RS	MULTIHIPO 80W-90 F PLUS	ZF001456
FABRIKA MAZIVA FAM AD, KRUSĚVAC/RS	MULTIHIPO 80W-140 F PLUS	ZF001749
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN GEAR HYP LD SAE 80W-90	ZF000645
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN SUPERGEAR MC SAE 80W-90	ZF000722
GAZPROMNEFT-LUBRICANTS, MOSCOW/RU	G-TRUCK GL-4/GL-5 80W-90	ZF000554
GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE	OEST GETRIEBEÖL FE SAE 80W-90 GL4/5	ZF000565
GRUPA LOTOS S.A., GDANSK/PL	TITANIS SUPER GL-5 80W/140	ZF000353
GRUPA LOTOS S.A., GDANSK/PL	TITANIS SUPER GL-5 80W-90	ZF001098
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF GEAR TDL 80W-90	ZF000780
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF GEAR LD 80W-90	ZF001134
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF GEAR LD 80W-90	ZF001950
HUILES BERLIET S.A., SAINT-PRIEST/FR	RTO LONGEVIA TC ECO 80W-90	ZF001564
IGOL FRANCE, AMIENS/FR	GEAR M 80W-90	ZF001834
INA MAZIVA LTD., ZAGREB/HR	INA HIPENOL TDL 80W-90	ZF000432
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 SYNTHETIC GEAR OIL SAE 80W-140	ZF000070
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 AXLE OIL XG SAE 80W-140	ZF000093
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 GEAR OIL XG SAE 80W-90	ZF000094
LIQUI MOLY GMBH, ULM/DE	LIQUI MOLY HYPOID GETRIEBEÖL TDL SAE 80W-90	ZF001323
MEGUIN GMBH & CO. KG, SAARLOUIS/DE	MEGOL HYPOID-GETRIEBEÖL TDL 80W-90	ZF001183
NIS AD, NOVI SAD/RS	NISOTEC HIPO LD ZF SAE 80W-90	ZF001362
OMV PETROL OFISI A.S., ISTANBUL/TR	MAXIGEAR TECH EP-X 80W-90	ZF001665
OOO "LLK-INTERNATIONAL", MOSCOW/RU	LUKOIL TRANSMISSION UNI 80W-90	ZF001768
ORLEN OIL SP. Z O.O., KRAKOW/PL	PLATINUM GEAR LL 80W-90	ZF000311
OY TEBOIL AB, HELSINKI/FI	TEBOIL HYPOID SAE 80W-90	ZF001970
OY TEBOIL AB, HELSINKI/FI	TEBOIL HYPOID SAE 80W-140	ZF002039
PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT	GLOBAL GEAR SA SAE 85W-140	ZF001831
PANOLIN AG, MADETSWIL/CH	PANOLIN TOPGEAR 80W/90	ZF000423
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA	TRAXON 80W-90	ZF000764
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA	TRAXON 85W-140	ZF000778
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA	TRAXON XL SB 80W-140	ZF000838
PETROGAL S.A., LISBOA/PT	GALP TRANSVEX TDL 85W140	ZF000777
PETROGAL S.A., LISBOA/PT	GALP TRANSOIL HP XT 80W90	ZF001981
PETROMIN CORPORATION, JEDDAH/SA	PETROMIN GEAR BOX Z12 SAE 80W90	ZF001966
REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES	REPSOL CARTAGO LD 80W90	ZF001141
REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES	REPSOL CARTAGO LD 85W140	ZF001142
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S3 AD 80W-90	ZF001237
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S3 AM 80W-90	ZF001292
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX HD 80W- 90	ZF001352
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX HD 80W- 90	ZF001353
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX HD 80W- 90	ZF001354
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S4 AX (80W-90)	ZF001619
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S4 AX (80W-90)	ZF001620
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S4 AX (80W-90)	ZF001621
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE	SRS GETRIEBEFÜLLUNG SML 80W-90	ZF000447
STATOIL LUBRICANTS, STOCKHOLM/SE	GEARWAY G5 80W-90	ZF001036
TEDEX S.A., WARSZAWA/PL	TEDEX SUPER GEAR OIL (TDL) SAE 80W-90	ZF001342
TOTAL LUBRIFIANTS S.A., NANTERRE/FR	TOTAL TRANSMISSION XPM 80W-90	ZF000484
TOTAL LUBRIFIANTS S.A., NANTERRE/FR	TOTAL TRANSMISSION AXLE 8 FE 80W-140	ZF001775
TOTAL LUBRIFIANTS S.A., NANTERRE/FR	TOTAL TRANSMISSION AXLE 9 80W-90	ZF001778
VALVOLINE AUSTRALIA PTY LTD, WETHERILL PARK, NSW/AU	GEAR OIL GL-5 XTREME SAE 80W-90	ZF001720
VALVOLINE EMEA, DORDRECHT/NL	VALVOLINE HEAVY DUTY AXLE OIL PRO 80W-90 LD	ZF001837
VALVOLINE EMEA, DORDRECHT/NL	VALVOLINE HEAVY DUTY AXLE OIL PRO 80W-90	ZF001869
VIAL OIL LTD., FRYAZINO/RU	CONSOL TRANS LUX 80W-90	ZF000587
ZELLER+GMELIN GMBH&CO.KG , EISLINGEN/DE	DIVINOL MULTI-AXLE 80W90	ZF001684
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE	ZF-ECOFÜLLUNG X SAE 80W-90	ZF001266

**Lubricant class 12N**

Transmission oil

Viscosity grades: SAE 75W-90 / 75W-110 / 75W-140

**Manufacturer (12N)**

ARAL AG, BOCHUM/DE  
 BASF SE, LUDWIGSHAFEN/DE  
 BP PLC., LONDON/GB  
 BUCHER AG LANGENTHAL, LANGENTHAL/CH  
 CASTROL LTD, LONDON/GB  
 CEPESA COMERCIAL PETRÓLEO, MADRID/ES  
 CEPESA COMERCIAL PETRÓLEO, MADRID/ES  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CHEVRON LUBRICANTS, SAN RAMON, CA/US  
 CONDAT LUBRIFIANTS, CHASSE SUR RHONE/FR  
 DE OLIEBRON BV, ZWIJNDRECHT/NL  
 DE OLIEBRON BV, ZWIJNDRECHT/NL  
 DEEP OIL TRADING COMPANY LLP, LONDON/GB  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 EXXONMOBIL CORPORATION, HOUSTON, TX/US  
 FABRIKA MAZIVA FAM AD, KRUŠEVAC/RS  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 FUCHS PETROLUB SE, MANNHEIM/DE  
 GAZPROMNEFT-LUBRICANTS, MOSCOW/RU  
 GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE  
 GRUPA LOTOS S.A., GDANSK/PL  
 GULF OIL INTERNATIONAL, MUMBAI/IN  
 HUILES BERLIET S.A., SAINT-PRIEST/FR  
 IGOL FRANCE, AMIENS/FR  
 INA MAZIVA LTD., ZAGREB/HR  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL  
 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  
 NIS AD, NOVI SAD/RS  
 OMV PETROL OFISI A.S., ISTANBUL/TR  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 OOO "LLK-INTERNATIONAL", MOSCOW/RU  
 OY TEBOIL AB, HELSINKI/FI  
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT  
 PANOLIN AG, MADETSWIL/CH  
 PANOLIN AG, MADETSWIL/CH  
 PETROGAL S.A., LISBOA/PT  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY  
 PHI OIL GMBH, ST. GEORGEN/AT  
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE  
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES  
 SASOL OIL, RANDBURG/ZA  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB  
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN  
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE  
 STATOIL LUBRICANTS, STOCKHOLM/SE  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR  
 VALVOLINE EMEA, DORDRECHT/NL  
 VALVOLINE EMEA, DORDRECHT/NL  
 VEEDOL INTERNATIONAL LIMITED, GLASGOW/GB  
 VIAL OIL LTD., FRYAZINO/RU  
 YACCO SAS, ST PIERRE LES ELBEUF/FR  
 YORK LUBRICANTS - GINOUVES SAS, LA GARDE/FR

**Trade name (12N)**

ARAL GETRIEBEÖL SNA-E 75W-90  
 EMGARD UAF 7105  
 BP ENERGEGEAR SHX-M 75W-90  
 UNISYNT ZX SAE 75W90  
 SYNTRAX UNIVERSAL PLUS 75W-90  
 CEPESA TRANSMISIONES EP FE+LD 75W-90  
 MAN SUPER AXLE 3343 75W-90  
 MULTIGEAR S 75W-90  
 MULTIGEAR S 75W-140  
 GEAR TXS 75W90  
 TOR UNI GEAR LD 75W90  
 TOR UNI GEAR 75W110 LD  
 DRIVE RW FORCE S GL-5 75W-90  
 MOBILUBE 1 SHC 75W-90  
 MOBIL DELVAC SYNTHETIC GEAR OIL 75W-90  
 MOBIL DELVAC 1 GEAR OIL 75W-90  
 MULTIHPO 75W-90 SINT  
 FUCHS TITAN CYTRAC HSY SAE 75W-90  
 FUCHS TITAN CYTRAC RR SAE 75W-90  
 G-BOX GL-4/GL-5 75W-90  
 OEST SYNTH GETRIEBEÖL SAE 75W-90  
 TITANIS SUPER GL-5 75W/90  
 GULF SYNGEAR 75W-90  
 RTO LONGEVIA TCX ECO 75W-90  
 SYNTHEGEAR 75W-90  
 INA HIPENOL SHD 75W-90  
 Q8 TRANS XGS 75W-90  
 Q8 TRANS XGR 75W-140  
 Q8 T 66 SAE 75W-110  
 LIEBHERR SYNTOGEAR PLUS 75W-90  
 LIQUI MOLY VOLLSYN. HYPOID GETR.ÖL TRUCK (75W-90)  
 MEGOL GETRIEBEOEL TRUCK-SYNTH SAE 75W-90  
 MOTUL GEAR SYNTH TDL 75W-90  
 NISOTEC HIPO SINT TDL SAE 75W-90  
 MAXIGEAR D 75W-90  
 LUKOIL TRANSMISSION TM-4/5 75W-90  
 LUKOIL TRANSMISSION UNI S 75W-90  
 TEBOIL HYPOID SAE 75W-90  
 GLOBAL MULTIGEAR TS SAE 75W/90  
 PANOLIN SUPER DUTY SYNTH 75W/140  
 PANOLIN SUPER DUTY SYNTH 75W/90  
 GALP TRANSVEX TDL 75W90  
 TUTELA TRANSMISSION X-ROAD (75W-140)  
 TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)  
 TUTELA TRANSMISSION FE-AXLE (SAE 75W-90)  
 TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)  
 UNIGEAR GOLD 75W90  
 RAVENOL TDG 75W-110  
 REPSOL CARTAGO FE LD 75W90  
 SYN GEAR DIFFERENTIAL OIL 75W-90  
 SHELL SPIRAX S6 AXME 75W-90  
 SHELL SPIRAX S6 AXME 75W-140  
 SHELL SPIRAX S6 AXME 75W-90  
 SHELL SPIRAX S4 AT 75W-90  
 SHELL SPIRAX S 75W-140  
 SHELL SPIRAX S6 AXME 75W-90  
 SINOPEC GREATWALL VT 75W/90  
 SRS GETRIEBEFUID SXL 75W-90  
 GEARWAY S5 75W-90  
 TOTAL TRANSMISSION SYN FE 75W-90  
 FINA PONTONIC FDL 75W-90  
 ELF TRANSELF SYNTHSE FE 75W-90  
 TOTAL TRANSMISSION DUAL 9 FE 75W-90  
 VALVOLINE HEAVY DUTY TDL PRO 75W-90  
 VALVOLINE HEAVY DUTY AXLE OIL PRO 75W-140  
 VEEDOL TRANSMISSION SYNTHETIC LD 75W-90  
 CONSOL TRANS LUX 75W-90  
 BVX 1000 75W-90  
 YORK 896 75W90

**ZF approval number**

ZF000142  
 ZF001876  
 ZF000208  
 ZF000354  
 ZF001471  
 ZF000086  
 ZF000965  
 ZF000815  
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 ZF000591  
 ZF001612  
 ZF000550

**Lubricant class 12P**

Lubricating grease according to specification / requirement:

- DIN 51502 classification at least GP 0/00/000 G -30
- ISO 6743-9 classification at least ISO-L-X C C E/F/H/I B 0/00/000
- Consistency class: NLGI 0 / 00 / 000
- Base oil: API Group 1 / 2 / 3 / 4
- Thickener type: Li / Ca
- EP additives
- Release of centralized lubricating system manufacturer for the used system must be available

**Note:**

- **All trade products can be used which comply with the specifications / requirements mentioned above.**
- **The system or vehicle operator ensures that a regular and reliable supply of the greasing points is guaranteed.**
- **The system or vehicle operator ensures that greasing supply is never insufficient at any lubricating point (automatic error message via system and regular visual inspection).**
- **The system manufacturer's provisions with regard to checking for escaping fresh grease and the change intervals must be observed.**