



**Manual and automated transmissions
for trucks, buses and light commercial vehicles
with "TE-ML 02" entry on the type plate**

List of lubricants TE-ML 02

Table of contents	Page
1. Approved lubricant classes	1
1.1 Trucks and special applications	1
1.2 Buses	4
1.3 Light commercial vehicles	5
1.4 Product groups/Models/Versions from the past, not individually listed	5
2. Oil and filter change intervals (filter replacement affects only transmission with Intarder or WSK [torque converter clutch])	6
3. Low temperatures limits	7
4. Explanation of footnotes and comments	7
5. Lubricant classes and approved trade products	8

1. Approved lubricant classes

1.1 Trucks and special applications

Product groups trucks Note: Instead of the "0" as the last figure, there may also be a: 2;3;4;5. (Example: 12AS1935, 16S2223)	Lubricant classes	
	First fill ⁽⁵⁾	Service fill ⁽⁶⁾
Ecolite S5-42, S6-36, S6-36/2, S5-420	ZF-Ecofluid M 02B ⁽¹⁾ / 02E	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02L
S5-580	ZF-Ecofluid M 02B ⁽¹⁾ / 02E	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02L
6S500	ZF-Ecofluid M 02B / 02E	ZF-Ecofluid M 02B / 02E
Ecolite / AS Tronic lite 6S850, 6AS850	ZF-Ecofluid M 02B ⁽¹⁾ / 02E	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02H ⁽¹⁾ / 02L
Ecolite 6S1200TO, 6S1200TD	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02H ⁽¹⁾	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02H ⁽¹⁾ / 02L
Ecolite / AS Tronic lite 6S700TO, 6AS700TO, 6S800TO, 6AS800TO, 6S1000TO, 6AS1000TO	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02L
AS Tronic lite Hydraulic actuators	02K	02K

The list of lubricants TE-ML 02, **edition 01.04.16** 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.

ZF Friedrichshafen AG
D-88038 Friedrichshafen
phone: + 49 7541 77 3505
email: lubricant2@zf.com

Product groups trucks (continuation) Note: Instead of the "0" as the last figure, there may also be a: 2;3;4;5. (Example: 12AS1935, 16S2223)	Lubricant classes	
	First fill ⁽⁵⁾	Service fill ⁽⁶⁾
Ecomid without Intarder 9S75, 8S109, 9S109, 16S109	ZF-Ecofluid M 02B / 02E / 02H	ZF-Ecofluid M 02B / 02E / 02H / 02L
Ecomid with Intarder 8S109IT, 9S109IT, 16S109IT	ZF-Ecofluid M 02E / 02H	ZF-Ecofluid M 02E / 02H / 02L
Ecomid without Intarder 8S1110, 9S1110, 9S1310, 9S1510	ZF-Ecofluid M 02B / 02E	ZF-Ecofluid M 02B / 02E / 02L
Ecomid with Intarder 8S1111, 9S1111, 9S1311	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L
AS Tronic mid 12AS1010, 12AS1210, 12AS1220, 12AS1420, 12AS1620	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B / 02E / 02L
Ecosplit without Intarder 8S151, 16S151, 8S181, 16S181, 16S221, 16S251 8S1620, 16S1620, 8S1820, 16S1820, 8S1920, 16S1920, 16S2020, 8S2220, 16S2220, 16S2520, 16S2720 16S1580, 16S1680, 16S2180, 16S2280	ZF-Ecofluid M 02B / 02E / 02H	ZF-Ecofluid M 02B / 02E / 02H / 02L
Ecosplit with Intarder 8S151IT, 16S151IT, 8S181IT, 16S181IT, 16S221IT, 16S251IT 8S1621, 16S1621, 8S1821, 16S1821, 8S1921, 16S1921, 16S2021, 8S2221, 16S2221, 16S2521, 16S2721 16S1581, 16S1681, 16S2181, 16S2281	ZF-Ecofluid M 02E / 02H	ZF-Ecofluid M 02E / 02H / 02L
Ecosplit without Intarder 16S2320, 16S2330	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B / 02E / 02L
12S2130, 12S2330, 12S2830	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B / 02E / 02L
8S1630, 16S1630, 8S1830, 16S1830, 8S1930, 16S1930, 16S2030, 8S2230, 16S2230, 16S2530, 16S2733	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B / 02E / 02H / 02L
Ecosplit with Intarder 16S2321, 16S2331	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L
12S2131, 12S2331, 12S2831	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L
16S1631, 8S1831, 16S1831, 8S1931, 16S1931, 16S2031, 8S2231, 16S2231, 16S2531, 16S2731	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02H / 02L
Classic Line 8S1350, 16S1455TD, 16S1650, 16S1670, 16S1850, 16S1950, 9S1820, 16S1650HD S6-1550, S6-820, S5-680, S6-680, S5-820	ZF-Ecofluid M 02B / 02E / 02H	ZF-Ecofluid M 02B / 02E / 02H / 02L
AS Tronic without Intarder 12AS1630, 12AS1930, 12AS2130, 12AS2140, 12AS2300, 12AS2301, 12AS2330, 12AS2340, 12AS2501, 12AS2530, 12AS2540, 12AS2740, 12AS2940, 12AS3001, 12AS3002, 12AS3140, 16AS2230, 16AS2600, 16AS2601, 16AS2630	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B / 02E / 02L
AS Tronic with Intarder 12AS1631, 12AS1931, 12AS2131, 12AS2141, 12AS2300IT, 12AS2301IT, 12AS2331, 12AS2341, 12AS2501IT, 12AS2531, 12AS2541, 12AS2741, 12AS2941, 12AS3001IT, 12AS3002IT, 12AS3141, 16AS2231, 16AS2600IT, 16AS2601IT, 16AS2631	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L

Product groups trucks (continuation) Note: Instead of the "0" as the last figure, there may also be a: 2;3;4;5. (Example: 12AS1935, 16S2223)	Lubricant classes	
	First fill ⁽⁵⁾	Service fill ⁽⁶⁾
TraXon without Intarder 12TX1410, 12TX1610, 12TX1810, 12TX2010, 12TX2210, 12TX2410, 12TX 2610, 12TX2420, 12TX2620, 12TX2820, 12TX3020, 12TX3220, 12TX3420 16TX1640, 16TX1840, 16TX2040, 16TX2240, 16TX2440, 16TX2640, 16XT2840, 16TX3040, 16TX3240, 16TX3440	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L
TraXon with Intarder 12TX1411, 12TX1611, 12TX1811, 12TX2011, 12TX2211, 12TX2411, 12TX 2611, 12TX2421, 12TX2621, 12TX2821, 12TX3021, 12TX3221, 12TX3421 16TX1641, 16TX1841, 16TX2041, 16TX2241, 16TX2441, 16TX2641, 16XT2841, 16TX3041, 16TX3241, 16TX3441	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L
Transmatic (Joint oil circuit of basic transmission and converter lock-up clutches) 16S151WSK, 16S221WSK, 16S251WSK	02H ⁽²⁾	02H ⁽²⁾
TC Tronic (Separate oil circuit of basic transmission and converter lock-up clutches) Basic transmission: 12TC2540, 12TC2740	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B / 02E / 02L
Torque converter lock-up clutches: TC 2	02H ⁽²⁾ / ATF in accordance with TE-ML 14 ⁽⁷⁾	02H ⁽²⁾ / ATF in accordance with TE-ML 14 ⁽⁷⁾
TC Tronic HD (Heavy Duty) (Separate oil circuit of basic transmission and converter lock-up clutches) Basic transmission: 12AS3040TCIT	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L
Torque converter lock-up clutches: TCHD	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E
NMV 1600L1, 2000L1, 2003L1, 1075K1 (engine-dependent PTO" with independent oil circuit)	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L

1.2 Buses

Product groups buses	Lubricant classes	
	First fill ⁽⁵⁾	Service fill ⁽⁶⁾
Ecolite S5-42, S6-36, S6-36/2, 5S600BO	ZF-Ecofluid M 02B ⁽¹⁾ / 02E	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02L
Ecolite 6S890, 6S700BO	ZF-Ecofluid M 02B ⁽¹⁾ / 02E	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02H / 02L
Ecolite without Intarder S6-85, 6S1000BO, 6S1000BD, 6S1200BO, 6S1200BD, 6S1350BO, 6S1600BD, 6S1650BO, 6S1700BO, 6S1900BO	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02H	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02H / 02L
Ecolite with Intarder 6S1351BO, 6S1601BD, 6S1651BO, 6S1901BO, 6S1701BO	ZF-Ecofluid M 02E / 02H	ZF-Ecofluid M 02E / 02H / 02L
Ecolite / AS Tronic lite 6S710BO, 6AS710BO, 6S1010BO, 6AS1010BO, 6S1110BO, 6AS1110BO	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B ⁽¹⁾ / 02E / 02L
AS Tronic lite Hydraulic actuators	02K	02K
Ecomid without Intarder 8S180, 8S2100BO, 8S2100BD	ZF-Ecofluid M 02B / 02E / 02H	ZF-Ecofluid M 02B / 02E / 02H / 02L
Ecomid with Intarder 8S180IT, 8S2101BO, 8S2101BD	ZF-Ecofluid M 02E / 02H	ZF-Ecofluid M 02E / 02H / 02L
Classic Line S6-1550, S6-820, S5-680, S6-680, S5-820, 6S1380BD	ZF-Ecofluid M 02B / 02E / 02H	ZF-Ecofluid M 02B / 02E / 02H / 02L
AS Tronic without Intarder 10AS2300BO, 10AS2310B, 10AS2700BO, 12AS2000BO, 12AS2300BO, 12AS2301, 12AS2700BO	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B / 02E / 02L
AS Tronic with Intarder 10AS2010BIT, 10AS2301IT, 10AS2310BIT, 12AS1601BO, 12AS2000BIT, 12AS2001BO, 12AS2300BIT, 12AS2301IT, 12AS2301BO, 12AS2701BO	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L
Ecoshift without Intarder 6S1310BD, 6S1310BO, 6S1610BD, 6S1610BO, 6S1910BO	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L
Ecoshift with Intarder 6S1311BD, 6S1311BO, 6S1611BD, 6S1611BO, 6S1911BO, 6S2111BO	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E / 02L

1.3 Light commercial vehicles

Product groups Light commercial vehicles	Lubricants / Lubricant classes	
	First fill ⁽⁵⁾	Service fill ⁽⁶⁾
5S200VO, 5S270VO, 6S300VD, 6S320VD, 6S350VD, 6S380VO, 6S420VO	ZF-Ecofluid M 02E Petronas Gear Oil T.E. LD SAE 75W-80 Total Tranself LD SAE 75W80	ZF-Ecofluid M 02B / 02E / 02L
eTronic 6AS300VD, 6AS320VD, 6AS380VO, 6AS400VO , 6AS420VO	Petronas Gear Oil T.E. LD SAE 75W-80 Total Tranself LD SAE 75W80	ZF-Ecofluid M 02B / 02E / 02L
6S650, 6S720, 6S750	ZF-Ecofluid M 02E	ZF-Ecofluid M 02B / 02E / 02L
6S450 VW Amarok	ZF-Ecofluid M VW spare part no. G 055 538 A2	
6S450 Mercedes-Benz Sprinter	ZF-Ecofluid M 02E	ZF-Ecofluid M 02E Exxon Mobil Gear Oil MB 317 Mercedes-Benz MB 235.10 -- Manual Transmission Oil A 001 989 26 03
5S400	Fuchs Titan EG MP 80 Petronas TUTELA OTZ (80W-90)	ZF-Ecofluid M 02B / 02E

1.4 Product groups/Models/Versions from the past, not individually listed

Product groups/Models/Versions	Lubricant classes
Torque converter lock-up clutches (WSK) with separate oil circuit	02H ⁽²⁾ / ATF in accordance with TE-ML 14 ⁽⁷⁾
Transmissions without ZF-Intarder AS Tronic 1 (12AS1800, 16AS2200) Constant-mesh and synchronised transmissions for commercial vehicles	ZF-Ecofluid M 02B / 02E / 02H / 02L
Transmissions with ZF-Intarder AS Tronic 1 (12AS1800IT, 16AS2200IT) Constant-mesh and synchronised transmissions for commercial vehicles	ZF-Ecofluid M 02E / 02H / 02L

2. Oil and filter change intervals (filter replacement affects only transmission with Intarder or WSK [torque converter clutch])

Caution: Please refer to the previous pages, Section 1, tables, for information on the lubricant classes released for the individual product groups.

ZF-Ecofluid M was specially designed for applications with manual transmissions and automatic transmissions in commercial vehicles. The combination of a hydrocrack base oil with a specially balanced additive package ensures excellent oxidation stability and is thus excellently suited for very long oil change intervals. It warrants high-quality transmission component protection, in particular of the synchronizers and the gearings. As a result of the flat viscosity characteristic curve, the oil is suited for applications in all climate zones, particularly in hot and cold regions. Moreover, in comparison with mineral transmission fluids, ZF-Ecofluid M helps to reduce fuel consumption by 0.5 up to 1.0%.







Truck, bus and special applications according to sections 1.1, 1.2 and 1.4

Lubricant class	02B, 02H, ATF	02L	ZF-Ecofluid M 02E	02K
Application	Oil and filter change intervals ⁽³⁾			
- Off-road operation e.g. mining application - Average speed up to 20 km/h - Stationary drives - NMV	1.000 h 20.000 km 1 year	5.000 h 100.000 km 1 year	10.000 h 200.000 km 2 years ⁽⁴⁾	---
- Outside temperatures > 40°C - Long-distance transport > 44 t - Short-distance transport - Tough operating conditions - Scheduled routes (buses) - Average speed from 20 to 60 km/h	120.000 km 1 year	240.000 km 2 years	360.000 km 3 years ⁽⁴⁾	---
- Long-distance transport (trucks) - Long-distance coach journeys (buses) - Average speed as of 60 km/h	180.000 km 1 year	360.000 km 2 years	540.000 km 3 years ⁽⁴⁾	---
- Hydraulic actuators	---	---	---	no oil change needed

Light commercial vehicles according to section 1.3

Lubricants / Lubricant classes	Oil change intervals
02B Fuchs Titan EG MP 80 Petronas TUTELA OTZ (80W-90)	60.000 km
02L Total Tranself LD 75W-80 Petronas Gear Oil T.E. LD SAE 75W-80	240.000 km
ZF-Ecofluid M / 02E Exxon Mobil Gear Oil MB 317 Mercedes-Benz MB 235.10 -- Manual Transmission Oil A 001 989 26 03	no oil change needed

3. Low temperatures limits

Lubricant classes	Oil type / SAE viscosity grade	Initial vehicle start-up at oil sump temperatures
ZF-Ecofluid M 02B / 02E / 02K / 02L / ATF	75W / 75W-80 / 75W-85 / 75W-90 / ATF	- 40°C 
02B / 02H	80W / 80W-85 / 80W-90	- 20°C 
02B / 02H	40, 85W-90, 90	0°C 
	30	- 15°C 
	20W (Torque converter lock-up clutches TC 2 only)	- 40°C 
	20W (Transmatic only)	- 40°C  - 5°C

4. Explanation of footnotes and comments

Footnotes

- (1) In moderate climate zones, shift quality of non-automated transmissions is impaired when using the lubrication classes 02B / 02H.
- (2) Lubricants marked (*) on the following pages must not be used.
- (3) Oil and filter change required, depending on what occurs first. Only use genuine ZF filter inserts:
 - Intarder 2: 6085 298 026
 - Intarder 3: 0501 215 163
 - WSK: 0501 202 378
- (4) These intervals only apply to a hose breather in a dry area. If there is no hose breather in the dry area, the oil change intervals specified for lubricant class 02L apply. This restriction does not apply to TraXon and bus applications. In the case of transmissions filled ex-works with lubricant class 02E, no oil change must be effected during the first two years as of initial registration. In case of retrofitting or repair in this period, oil refills with lubricant class 02E are permitted. Exception: The limits of application in accordance with the TE-ML 02 (operating hours, mileage [km]) are already met prior to the expiration of the first two years.
- (5) First filling: Only the lubricant classes listed are permitted for initial fillings of transmissions. ZF recommends the oil grades listed in Tables 1.1 -1.4.
- (6) Service filling: The lubricant classes listed are compulsory for service oil changes according to the oil-change intervals mentioned under Section 2. In case of oil changes at transmission mileage of up to 7500 km, only oils for initial fillings must be used. In the case of transmissions filled ex-works with lubricant class 02E, due attention must always be paid to footer 4.
- (7) All lubricants of TE-ML 14 may be used. Oil change intervals and temperature limits of TE-ML 02 do apply.

Comments

1. Instructions for transmission ventilation in accordance with Installation Guidelines 1203 765 110 and 1328 765 101 must be followed.
2. A lithium saponified multipurpose grease of NLGI class 2 which is mixable with mineral oil is to be used at greasing points (grease code KP2K-30 in acc. with DIN 51825 or ISO-L-XCCHB2 in accordance with ISO 6743-9).
3. 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.
4. ZF will not assume liability for damage caused by non-observance of our maintenance instructions.

5. Lubricant classes and approved trade products

Lubricant class 02A

Note:

Oils formerly approved according to lubricant class 02A are now found in lubricant class 02B.

Lubricant class 02B**Note:**

In moderate climate zones, shift quality is impaired if viscosity grades higher than SAE 80W are used.

Manufacturer (02B)

ADDINOL LUBE OIL GMBH, LEUNA/DE
 ARAL AG, BOCHUM/DE
 ARAL AG, BOCHUM/DE
 ARAL AG, BOCHUM/DE
 BAHRAIN PETROLEUM COMPANY, AWALI /BH
 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
 CEPESA COMERCIAL PETRÓLEO, MADRID/ES
 CEPESA 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
 CONDAT LUBRIFIANTS, CHASSE SUR RHONE/FR
 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
 FABRIKA MAZIVA FAM AD, KRUŠEVAC/RS
 FABRIKA MAZIVA FAM AD, KRUŠEVAC/RS
 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
 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-PIERRE/FR
 HUILES BERLIET S.A., SAINT-PIERRE/FR
 IGOL FRANCE, AMIENS/FR
 IGOL FRANCE, AMIENS/FR
 INA MAZIVA LTD., ZAGREB/HR
 INA MAZIVA LTD., ZAGREB/HR
 IPIRANGA PRODUTOS DE PETROLEO SA, RIO DE JANEIRO/BR
 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
 OMV PETROL OFISI A.S., ISTANBUL/TR
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 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
 PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR
 PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR
 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

Trade name (02B)

ADDINOL GETRIEBEÖL GX 80W-90 ML
 ARAL GETRIEBEÖL SNA-E 75W-90
 ARAL GETRIEBEÖL EP PLUS 80W-90
 ARAL GETRIEBEÖL EP 80W-90
 SPAREX HP 90 GL-4
 EMGARD UAF 7105
 TECTROL MULTIGEAR PLUS 8090
 BP ENERGEAR HT 80W-90
 BP ENERGEAR SHX-M 75W-90
 BP ENERGEAR EP 80W-90
 UNISYNT ZX SAE 75W90
 GEAR ZX TP SAE 80W/90
 CASTROL SYNTRAX UNIVERSAL 80W-90
 CASTROL MANUAL EP 80W-90
 SYNTRAX UNIVERSAL PLUS 75W-90
 CEPESA TRANSMISIONES EP FE+LD 75W-90
 MAN SUPER AXLE 3343 75W-90
 TRANSLUBE LD SAE 80W
 TRANSLUBE LD SAE 90
 MULTIGEAR 80W-90
 MULTIGEAR S 75W-90
 GEAR TXS 75W90
 GEAR TDM 80W
 TOR UNI GEAR LD 75W90
 DRIVE RW FORCE S GL-5 75W-90
 MOBILUBE 1 SHC 75W-90
 MOBILUBE S 80W-90
 MULTIHIPO 75W-90 SINT
 MULTIHIPO 80W-90 F PLUS
 FUCHS TITAN SUPERGEAR MC SAE 80W-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 75W/90
 TITANIS SUPER GL-5 80W-90
 GULF GEAR XP DURA MAX 80W-90
 GULF GEAR TDL 80W-90
 GULF SYNGEAR 75W-90
 GULF GEAR MZ 80W
 GULF GEAR MZ 90
 GULF GEAR MZ 85W-90
 GULF GEAR MZ 80W-90
 GULF GEAR ZX 80W
 RTO LONGEVIA P 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
 IPIRANGA ULTRAGEAR MB 80W
 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
 MAXIGEAR D 75W-90
 LUKOIL TRANSMISSION TM-4/5 75W-90
 LUKOIL TRANSMISSION TM-4 SAE 80W
 LUKOIL TRANSMISSION TM-4 80W-90
 LUKOIL TRANSMISSION TM-4 80W-85
 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
 LUBRAX TRM 4 SAE 80W
 LUBRAX TRM 4 SAE 90
 GALP TRANSVEX TDL 75W90
 PETROMIN GEAR BOX Z12 SAE 80W90
 TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)
 TUTELA TRANSMISSION STARGEAR HD (SAE 80W)
 TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)
 UNIGEAR GOLD 75W90
 REPSOL CARTAGO FE LD 75W90

ZF approval number

ZF000672
 ZF000142
 ZF000460
 ZF001715
 ZF001694
 ZF001876
 ZF001160
 ZF000200
 ZF000208
 ZF001216
 ZF000354
 ZF001721
 ZF000227
 ZF001096
 ZF001471
 ZF000086
 ZF000965
 ZF000800
 ZF000801
 ZF000812
 ZF000815
 ZF000829
 ZF001039
 ZF000964
 ZF001453
 ZF000041
 ZF000776
 ZF000653
 ZF001456
 ZF000722
 ZF000554
 ZF000962
 ZF000491
 ZF000565
 ZF000356
 ZF001098
 ZF000684
 ZF000780
 ZF000863
 ZF000873
 ZF000874
 ZF000875
 ZF001034
 ZF001849
 ZF001565
 ZF001566
 ZF001087
 ZF001834
 ZF000432
 ZF000977
 ZF001765
 ZF000094
 ZF000179
 ZF001972
 ZF001323
 ZF001347
 ZF001183
 ZF001291
 ZF000825
 ZF001362
 ZF001591
 ZF001013
 ZF001431
 ZF001524
 ZF001525
 ZF001768
 ZF001769
 ZF000311
 ZF001969
 ZF001970
 ZF001224
 ZF000423
 ZF000462
 ZF001476
 ZF001477
 ZF000980
 ZF001966
 ZF001017
 ZF001028
 ZF001738
 ZF001203
 ZF000451

Manufacturer (02B)

RN-LUBRICANTS, LLC, MOSCOW/RU
 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
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SINOPEC LUBRICANT CO., LTD., BEIJING/CN
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE
 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 CUMMINS PVT LIMITED, GURGAON/IN
 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
 ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (02B)

TNK TRANS 80W-90
 SYN GEAR DIFFERENTIAL OIL 75W-90
 SHELL SPIRAX S3 AM 80W-90
 SHELL SPIRAX S3 G 80W-90
 SHELL SPIRAX S3 G 80W
 SINOPEC GREATWALL MTF C-I 80W
 SINOPEC GREATWALL MTF C-I 80W-90
 SINOPEC GREATWALL MTF C-I 85W-90
 SRS GETRIEBEFLUID SML 80W-90
 SRS WIOLIN RSG 80
 SRS GETRIEBEFLUID SXL 75W-90
 SRS WIOLIN ML 4 PLUS SAE 80W
 SRS WIOLIN ML 4 PLUS SAE 80W-90
 SRS WIOLIN ML 4 PLUS SAE 90
 GEARWAY S5 75W-90
 TOTAL TRANSMISSION SYN FE 75W-90
 FINA PONTONIC FDL 75W-90
 ELF TRANSELF SYNTHESE FE 75W-90
 ELF TRANSELF UNIVERSAL FE 80W-90
 TOTAL TRANSMISSION DUAL 9 FE 75W-90
 VALVOLINE GEAR GARD PLUS 80W90
 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
 ZF-ECOFLUID X SAE 80W-90

ZF approval number

ZF001752
 ZF000702
 ZF001292
 ZF001298
 ZF001299
 ZF001727
 ZF001933
 ZF001936
 ZF000447
 ZF000452
 ZF001655
 ZF001914
 ZF001915
 ZF001916
 ZF001030
 ZF001514
 ZF001552
 ZF001555
 ZF001556
 ZF001771
 ZF000985
 ZF001869
 ZF001629
 ZF000587
 ZF000591
 ZF001612
 ZF000550
 ZF001266

Lubricant class 02E**Manufacturer (02E)**

ARAL AG, BOCHUM/DE
CASTROL LTD, LONDON/GB
CEPSA COMERCIAL PETRÓLEO, MADRID/ES
FUCHS PETROLUB SE, MANNHEIM/DE
HUILES BERLIET S.A., SAINT-PRIEST/FR
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
TOTAL LUBRIFIANTS S.A., NANTERRE/FR
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE

Trade name (02E)

ARAL GETRIEBEÖL SNS-M 75W-80
CASTROL SYNTRANS Z LONG LIFE 75W-80
MAN SUPER GEAR 341-Z5
FUCHS TITAN CYTRAC ULTRA SYNTH SAE 75W-80
RTO LONGEVIA BZV ECO 75W-80
TUTELA TRANSMISSION XT-D 540 (SAE 75W-80)
TOTAL TRANSMISSION GEAR 9 FE 75W-80
ZF-ECOFLUID M SAE 75W-80

ZF approval number

ZF000130
ZF000609
ZF000528
ZF001457
ZF001260
ZF000532
ZF001773
ZF000522

Lubricant class 02H**Note:**

1. In moderate climate zones, shift quality is impaired if viscosity grades higher than SAE 80W or SAE 30 are used.
2. Product group Transmatic/Torque converter lock-up clutches TC 2: With oil sump temperatures below -15°C, engine oil of viscosity grade SAE 20W (API CD/CE/CF-4/CF/CG-4/CH-4/CI-4/SF/SG/SH/SJ/SL specifications or ACEA categories A/B/E) must be used. If possible, any one of the below-mentioned commercial products in the viscosity class SAE 20W is to be used.
3. Product group Transmatic/Torque converter lock-up clutches TC 2: The lubricants marked thus (*) may not be used.

Manufacturer (02H)

ADDINOL LUBE OIL GMBH, LEUNA/DE
 ADDINOL LUBE OIL GMBH, LEUNA/DE
 CHEVRON LUBRICANTS, SAN RAMON, CA/US
 FUCHS PETROLUB SE, MANNHEIM/DE
 GULF OIL INTERNATIONAL, MUMBAI/IN
 IPIRANGA PRODUTOS DE PETROLEO SA, RIO DE JANEIRO/BR
 IPIRANGA PRODUTOS DE PETROLEO SA, RIO DE JANEIRO/BR
 PANOLIN AG, MADETSWIL/CH
 PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR
 PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY

Trade name (02H)

ADDINOL TURBO DIESEL MD 305 SAE 30
 ADDINOL TURBO DIESEL MD 405 SAE 40 (*)
 URSA TRANS SAE 40 (*)
 FUCHS TITAN UNIVERSAL HD SAE 30 ZF
 GULF SUPER DUTY LE 30
 IPIRANGA ULTRAGEAR 40 (*)
 IPIRANGA ULTRAGEAR ZF 40 (*)
 PANOLIN EXTRA DIESEL 30
 LUBRAX TRM 5 HD SAE 30
 LUBRAX TRM 5 HD SAE 40 (*)
 TUTELA TRANSMISSION ZCS 160 (SAE 80W-90)
 TUTELA TRANSMISSION ZCS 160 (SAE 80W-90)
 TUTELA TRANSMISSION ZCS 160 (SAE 80W-90)

ZF approval number

ZF000624
 ZF000625
 ZF000821
 ZF000719
 ZF001147
 ZF001340
 ZF001764
 ZF000393
 ZF001174
 ZF001175
 ZF000026
 ZF001901
 ZF001902

Lubricant class 02K

Manufacturer (02K)

DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/DE

Trade name (02K)

PENTOSIN CHF 11S

ZF approval number

ZF000832

Lubricant class 02L**Manufacturer (02L)**

ADDINOL LUBE OIL GMBH, LEUNA/DE
 BAYWA AG MÜNCHEN, MÜNCHEN/DE
 BUCHER AG LANGENTHAL, LANGENTHAL/CH
 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
 DEUTSCHE PENTOSIN WERKE GMBH, WEDEL/DE
 DONGFENG COMMERCIAL VEHICLE CO. LTD, HUBEI/CN
 EUROPART TRADING GMBH, HAGEN/DE
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 EXXONMOBIL CORPORATION, HOUSTON, TX/US
 FUCHS PETROLUB SE, MANNHEIM/DE
 GULF OIL INTERNATIONAL, MUMBAI/IN
 HAFA FRANCE, YVETOT/FR
 IGOL FRANCE, AMIENS/FR
 KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL
 LIQUI MOLY GMBH, ULM/DE
 MEGUIN GMBH & CO. KG, SAARLOUIS/DE
 MOL-LUB KFT, ALMASFUZITO/HU
 MOTUL SA, AUBERVILLIERS/FR
 OLIPES S.L., CAMPO REAL - MADRID/ES
 OMV PETROL OFISI A.S., ISTANBUL/TR
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 OOO "LLK-INTERNATIONAL", MOSCOW/RU
 PAKELO MOTOR OIL, SAN BONIFACIO (VR)/IT
 PAZ LUBRICANTS & CHEMICALS, HAIFA/IL
 PETROBRAS DISTRIBUIDORA S.A., DUQUE DE CAXIAS/BR
 PETROGAL S.A., LISBOA/PT
 PETROMIN CORPORATION, JEDDAH/SA
 PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY
 PHI OIL GMBH, ST. GEORGEN/AT
 RALOY LUBRICANTES, S.A. DE C.V., SANTIAGO TIANGUISTEN/MX
 RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE
 REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES
 S-OIL CORPORATION, SEOUL/KR
 SASOL OIL, RANDBURG/ZA
 SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB
 SK LUBRICANTS, SEOUL/KR
 STATOIL LUBRICANTS, STOCKHOLM/SE
 STATOIL LUBRICANTS, STOCKHOLM/SE
 TAMOIL ITALIA SPA, MILANO/IT
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 TOTAL LUBRIFIANTS S.A., NANTERRE/FR
 UNIL OPAL, SAUMUR/FR
 VALVOLINE EMEA, DORDRECHT/NL
 YACCO SAS, ST PIERRE LES ELBEUF/FR
 YORK LUBRICANTS - GINOUVES SAS, LA GARDE/FR
 ZELLER+GMELIN GMBH&CO.KG , EISLINGEN/DE

Trade name (02L)

ADDINOL GETRIEBEÖL GS 75W-80 SL
 TECTROL SYNTOGEAR MA 7580
 MOTOREX PRISMA TF SAE 75W/80
 CEPSA TRANSMISIONES FE+LD 75W-80
 MAN SUPER GEAR 75W-80
 MULTIGEAR MTF 75W-80
 MULTIGEAR MTF 75W-80
 GEAR TDS 75W80
 TOR MT/LD GEAR OIL 75W80
 DRIVE RW FORCE HS GL-4 75W-80
 PENTOSIN TLD 75W-80
 DFCV-HDT 31
 EUROPART SYNTHOGEAR INT. 75W80
 MOBIL DELVAC XHP TRANSMISSION OIL 75W-80
 MOBIL DELVAC 1 TRANSMISSION FLUID 75W-80
 FUCHS TITAN CYTRAC MAN SYNTH SAE 75W-80
 GULF SYNGEAR FE 75W-80
 GEARTARDER SAE 75W-80
 TRANS GEAR ZF PLUS 75W80
 Q8 T 60 NTECH SAE 75W-80
 LIQUI MOLY TRUCK GETRIEBEÖL HC GL4 SAE 75W-80
 MEGOL PREMIUM GETRIEBEÖL HC GL 4 75W80
 MOL HYKOMOL SYNTRANS 75W80
 MOTUL GEAR SYNTH XD 75W-80
 MAXIGEAR TS 7400 - SAE 75W-80
 MAXIGEAR S 75W-80
 LUKOIL TRANSMISSION TM-4 75W-80
 LUKOIL TRANSMISSION LDI 75W-80
 GOLDENGear LD PLUS SAE 75W/80
 PAZ TRANS MAX 75W-80
 LUBRAX GOLD XP SAE 75W-80
 GALP TRANSVEX TDL ULTRA 75W80
 PETROMIN GEAR BOX Z2 SAE 75W80
 TUTELA TRANSMISSION FE-GEAR (SAE 75W-80)
 GEAR OIL MDV SILVER 75W80
 KRÖNEN TRANSMISSION SYNTHETIC OIL 341
 RAVENOL SSG SPEC SYNT LKW GETRIEBEÖL 75W-80
 REPSOL CARTAGO CAJAS FE LD 75W80
 S-OIL 7 GEAR EP LL
 SYN GEARBOX OIL 75W-80
 SHELL SPIRAX S6 GXME 75W- 80
 SK GEAR EP 75W-80 ZF
 GEARWAY S4 LT 75W-80
 GEARWAY S4 75W-80
 TAMOIL TAMGEAR PLUS SAE 75W-80
 TOTAL TRANSMISSION MS FE 75W-80
 TOTAL TRANSMISSION GEAR 8 FE 75W-80
 GERION LD 75W80
 VALVOLINE HEAVY DUTY GEAR OIL PRO 75W-80 LD
 BVX Z 1000 75W-80
 YORK 994
 DIVINOL SYNTHOGEAR INT. 75W80

ZF approval number

ZF000974
 ZF001935
 ZF001660
 ZF000472
 ZF000862
 ZF000813
 ZF001220
 ZF001040
 ZF000634
 ZF001454
 ZF001423
 ZF001809
 ZF001875
 ZF000089
 ZF001683
 ZF001140
 ZF000683
 ZF000384
 ZF000960
 ZF000324
 ZF000693
 ZF000394
 ZF001064
 ZF001987
 ZF001439
 ZF001590
 ZF001012
 ZF001767
 ZF000488
 ZF000730
 ZF001337
 ZF001275
 ZF001967
 ZF000530
 ZF001386
 ZF000596
 ZF001111
 ZF001673
 ZF001263
 ZF001472
 ZF001481
 ZF000779
 ZF001708
 ZF001710
 ZF001338
 ZF001277
 ZF001779
 ZF000367
 ZF001830
 ZF001042
 ZF000735
 ZF001679