



Off-Road Driveline Technology  
and Axle Systems

## Hydrostatic-mechanical and electric drive systems

## List of lubricants TE-ML 07

Product groups	Lubricant classes for service fills (1)	Alternative lubricant classes for service fills (1)
<b>Powershift transmissions</b> HL AVG (2)	07B / 07D / 07E / 07F	---
<b>Continuously variable hydrostatic drives</b> HC	Mechanical section: 07D Hydraulic section: 07D / 07H (3)	---
<b>Mobile mixer drives</b> CML	Mechanical section: Gear oil ZF Ecofluid X (ZF No. 0681 000 412) Hydraulic section: 07D / 07H (3)	---
<b>Mobile mixer drives</b> P3301, P4300, P5300, P6300, P7300 PK5300, PK6500, PK7500	07A / 07C / 07E	07D
<b>Mobile mixer drives</b> PLM P3200	07C / 07E	07D
<b>Swing drives</b> DR	07D / 07E / 07G / 07H	---
<b>Transmissions for lifting equipment</b> RME RMT	07A / 07E	---

(1) Refer to the following pages for approved commercial products.

- (2) For AVGs directly mounted on ZF axles, use gear oils in accordance with TE-ML 05 for the common oil circuit of the transmission and axle.  
(3) Moreover, please observe the specifications provided by the vehicle manufacturer or hydraulic manufacturer.

A Multipurpose grease classified KP2K-20 acc. to DIN 51825 or ISO-L-XBCHB2 acc. to ISO 6743-9 must be used on greasing points (basic oil API Group 1, 2, 3 or 4, EP additives, lithium saponified, temperature use limits min. between -20 and +120° C, NLGI-Class 2).

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.

**Caution: Pay due attention to the instructions given on low temperature limits on Page 2**

The list of lubricants TE-ML 07, Edition 01.01.2011 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](http://www.zf.com).

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**Low temperature limits**

Lubricant classes	viscosity grades	Use at outside temperatures above (4)	
		Hydrostatic-mechanical and electric drive - Hydraulic section	Hydrostatic-mechanical and electric drive - Mechanical section
07A (Gear oil)	SAE 75W-90, 75W-110, 75W-140	---	-40°C
	SAE 80W-85, 80W-90, 80W-110, 80W-140	---	-26°C
	SAE 85W-90, 85W-110, 85W-140, 90	---	-12°C
ZF Ecofluid X (Gear oil)	SAE 80W-90	---	-26°C
(STOU, engine oil, off highway lubricants)	SAE 5W-30, 5W-40	-35°C	-40°C
	SAE 10W-30, 10W-40	-30°C	-35°C
	SAE 15W-30, 15W-40	-25°C	-30°C
	SAE 20W-20	-20°C	-25°C
	SAE 20W-40	-20°C	---
	SAE 30	-5°C	-10°C
07E (Biodegradable lubricants)	SAE 75W-80	-35°C	-40°C
07G (Biodegradable lubricants)	ISO VG 46	---	-10°C
07H (hydraulic oil)	ISO VG 68	---	-5°C

- (4) An even warm-up phase is needed in order to reach the minimum oil temperature required for starting the drive unit (mentioned low temperature limit). At outside temperatures below -5°C, a warm-up phase of at least 10 minutes is required, irrespective of the viscosity grade used.

**Lubricant class 07A**

Gear oil in accordance with Specification  
API GL-5 and MIL-L-2105D  
or MIL-PRF-2105E  
or SAE J2360

**Viscosity grades:**

SAE 75W-90 / 75W-110 / 75W-140 / 80W-85 / 80W-90 / 80W-110 / 80W-140 / 85W-90 / 85W-110 / 85W-140 /  
90

**Note:**

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

**Lubricant class 07B**

STOU (Super tractor oil universal)

Viscosity grades: SAE 10W-30 / 10W-40 / 15W-30 / 15W-40 / 20W-40

**Manufacturer (07B)**

Manufacturer (07B)	Trade name (07B)
ADDINOL LUBE OIL GMBH, LEUNA/D	ADDINOL SUPER TRAKTOR MU 1045 SAE 10W-40
AGIP SCHMIERTECHNIK GMBH, WÜRZBURG/D	AUTOL AGROTECH SAE 10W-30
ARAL AG, BOCHUM/D	ARAL SUPER TRAKTORYL SAE 10W-30
ARAL AG, BOCHUM/D	ARAL SUPERTRAKTORYL 10W-40
ARAL AG, BOCHUM/D	ARAL TRAKTORYL 10W-40
AVIA MINERALÖL-AG, MÜNCHEN/D	TRACTAVIA FE 10W-40
BAYWA AG, MÜNCHEN/D	BAYWA SUPER 2000 CD-MC 10W-30
BAYWA AG, MÜNCHEN/D	BAYWA SUPER MULTISYN SL 10W-40
BAYWA AG, MÜNCHEN/D	TECTROL SUPER 2000 CD-HC
BAYWA AG, MÜNCHEN/D	TECTROL SUPER MULTISYN
BEHRAN OIL CO., TEHRAN/IR	BEHRAN GARDAN VIJEH 56 SAE 15W-40
BP INTERNATIONAL, PANGBOURNE, READING/GB	ARISTOL TRACTOR OIL GMH 10W-40
BP INTERNATIONAL, PANGBOURNE, READING/GB	BP TERRAC SUPER UNIVERSAL 10W-40
BP INTERNATIONAL, PANGBOURNE, READING/GB	BP TERRAC UNIVERSAL 15W-30
BP INTERNATIONAL, PANGBOURNE, READING/GB	BP TERRAC UNIVERSAL 15W-40
BP INTERNATIONAL, PANGBOURNE, READING/GB	BP VANELLUS AGRI SUPER UNIVERSAL 10W-40
BP INTERNATIONAL, PANGBOURNE, READING/GB	BP VANELLUS AGRI UNIVERSAL 15W-40
BUCHER AG LANGENTHAL, LANGENTHAL/CH	MOTOREX FARMER TRAC
BUCHER AG LANGENTHAL, LANGENTHAL/CH	MOTOREX FARMER TRAC VARIANT SAE 10W/30
CASTROL INTERNATIONAL, PANGBOURNE READING/GB	CASTROL AGRI MP 15W-30
CASTROL INTERNATIONAL, PANGBOURNE READING/GB	CASTROL AGRI MP 15W-40
CASTROL INTERNATIONAL, PANGBOURNE READING/GB	CASTROL AGRI MP PLUS 10W-40
CEPSA LUBRICANTS S.A., MADRID/E	CEPSA AGRO PLUS 15W-40
CEPSA LUBRICANTS S.A., MADRID/E	ERTOIL MULTI AGRO 15W-40
CHEVRONTEXACO, GHENT/B	CALTEX SUPER TRACTOR SAE 15W-40
CONDAT LUBRIFIANTS, CHASSE SUR RHONE/F	MAXITRACT 15W40
CONDAT LUBRIFIANTS, CHASSE SUR RHONE/F	VICAM TP 10W40
DE OLIEBRON B.V., ZWIJNDRECHT/NL	MULTITRAC 15W30
ENI S.P.A. REFINING & MARKETING DIVISION, ROME/I	AGIP SUPERTRACTOR UNIVERSAL 15W-40
EXXON MOBIL CORPORATION, FAIRFAX, VIRGINIA/USA	MOBIL AGRI EXTRA 10W-40
EXXON MOBIL CORPORATION, FAIRFAX, VIRGINIA/USA	MOBIL AGRI SUPER 10W-30
EXXON MOBIL CORPORATION, FAIRFAX, VIRGINIA/USA	MOBIL AGRI SUPER 15W-40
FUCHS PETROLUB AG, MANNHEIM/D	AGRIFARM STOU 1030 MC
FUCHS PETROLUB AG, MANNHEIM/D	AGRIFARM STOU 10W-40 MC
GENOL GMBH & CO., WIEN/A	GENOL TRAC-SYN 1040
GINOUVES GEORGES SA, LA FARLEDE/F	YORK 743 10W40
GINOUVES GEORGES SA, LA FARLEDE/F	YORK 743 15W40
GRUPA LOTOS SA, GDANSK/PL	AGROL STOU PLUS CG-4 10W30
GRUPA LOTOS SA, GDANSK/PL	AGROL STOU PLUS CG-4 10W40
GRUPA LOTOS SA, GDANSK/PL	AGROLIS STOU PLUS 10W40
HANDEL MIJ NOVIO B.V., NIJMEGEN/NL	KENDALL MULTIFARM SAE 15W-30
IGOL FRANCE SA, AMIENS/F	PROLANDER MULTI SUPER
INA MAZIVA RIJEKA, RIJEKA/HR	INA AGRINA 15W-30
KRAFFT S.L., ANDOAIN/E	STOU 15W40
KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL	Q8 T 1000 D SAE 10W-30
KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL	Q8 T 1000 D SAE 15W-30
KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL	Q8 T 1000 SAE 10W-30
KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL	Q8 T 1000 SAE 15W-30
KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL	Q8 T 5000 SAE 10W-40
LANTMÄNNEN ENERGI AB, STOCKHOLM/S	AGROL TURBO KOMBI SAE 10W-30
LANTMÄNNEN ENERGI AB, STOCKHOLM/S	AGROL VARIOTRANS 10W-40
LIQUI MOLY GMBH, ULM/D	TRAKTORÖL STOU SAE 10W-30
LLK FINLAND OY, HAMINA/FIN	TEBOIL MONITRA PLUS SAE 10W-30
MAGNA INDUSTRIAL CO. LIMITED, HONG KONG/HK	OMEGA 603 SAE15W40
MEGUIN GMBH & CO. KG MINERALOELWERKE, SAARLOUIS/D	MEGOL SUPER TRAKTORENOEL STOU SAE 10W-30
MINERALÖL-RAFFIN. DOLBERGEN, UETZE-DOLBERGEN/D	PENNASOL SUPER TRACTOR UNIVERSALOEL STOU 10W30
MINERALÖL-RAFFIN. DOLBERGEN, UETZE-DOLBERGEN/D	PENNASOL SUPER TRACTOR UNIVERSALOEL STOU 15W30
MORRIS LUBRICANTS, SHREWSBURY/GB	SUPER VERSITRAC
MOTUL SA, AUBERVILLIERS CEDEX/F	MOTUL DS SUPER AGRI 10W-30
NOVA STILMOIL SPA, MODENA/I	MF LUBE+ AGRILUBE UNIVERSAL 10W30
OMV REFINING & MARKETING GMBH, WIEN/A	OMV AUSTROTAC SAE 10W-40
PAKELO MOTOR OIL S.R.L, SAN BONIFACIO (VR)/I	PAKELO STOU FLUID SAE 15W/40
PANOLIN AG, MADETSWIL/CH	PANOLIN STOU 10W/30
PANOLIN AG, MADETSWIL/CH	PANOLIN STOU 15W/30
PETROGAL S.A., LISBOA/P	GALP UNIAGRO 15W40
PETRONAS LUBRICANTS INTERN., KUALA LUMPUR/MAL	AKCELA MULTI TRACTOR (SAE 10W40)
PETRONAS LUBRICANTS INTERN., KUALA LUMPUR/MAL	AKCELA SUPER UNIVERSAL (SAE 10W30)

PETRONAS LUBRICANTS INTERN., KUALA LUMPUR/MAL  
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/D  
REPSOL YPF LUBRICANTES Y ESPECIALIDADES, MADRID/E  
REPSOL YPF LUBRICANTES Y ESPECIALIDADES, MADRID/E  
SAME DEUTZ-FAHR DEUTSCHLAND GMBH, LAUINGEN/D  
SAME DEUTZ-FAHR DEUTSCHLAND GMBH, LAUINGEN/D  
SAME DEUTZ-FAHR DEUTSCHLAND GMBH, LAUINGEN/D  
SHELL INTERNATIONAL PETROLEUM COMP LTD, LONDON/GB  
SHELL INTERNATIONAL PETROLEUM COMP LTD, LONDON/GB  
SHELL INTERNATIONAL PETROLEUM COMP LTD, LONDON/GB  
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/D  
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/D  
STRUB + CO AG, REIDEN/CH  
SYNECO SPA, SAN GIULIANO MILANESE/I  
TAMOIL ITALIA S.P.A., MILANO/I  
TOTAL LUBRIFIANTS S.A., PARIS/F  
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  
VALVOLINE EUROPE, DORDRECHT/NL  
VALVOLINE EUROPE, DORDRECHT/NL

AKCELA SUPER UNIVERSAL (SAE 15W40)  
AKROS MULTI VT (SAE 10W-30)  
AKROS UNIVERSAL SAE 10W30  
AKROS UNIVERSAL SAE 15W40  
AMBRA UNIVERSAL SAE 10W30  
AMBRA UNIVERSAL SAE 15W40  
AMBRA VT SPECIAL (10W40)  
ARBOR UNIVERSAL (SAE 15W40)  
RAVENOL SUTO SAE 15W-30  
AGRO CERES STOU SAE 15W40  
REPSOL CERES S.T.O.U. 10W40  
DF TOP MULTIFUNCTION 15W40  
DF X-TREME OIL 10W40  
SDF TOP MULTIFUNCTION 15W40  
SDF X-TREME OIL 10W40  
SHELL HARVELLA T 15W-40  
SHELL HARVELLA TX 10W-40  
SHELL SPIRAX S3 T  
SRS PRIMANOL 10W-30  
SRS PRIMANOL 10W-40  
SUPER TRACTOR OEL UNI.10W-30 (STOU)  
MULTITRACTOR STOU 15W40  
SUPER TRACTOR SAE 15W/40  
FINA SUPER UNIVERSAL OIL SAE 15W-40  
TOTAL MULTAGRI MS SAE 15W-40  
TOTAL MULTAGRI SUPER 10W-30  
TRACTORELF ST3 SAE 15W-40  
XANTHOS 10W40  
VALVOLINE STOU 10W-30  
VALVOLINE STOU 15W-30  
VALVOLINE STOU 15W-40

**Lubricant class 07C**

Engine oil

Viscosity grades: SAE 5W-40 / 10W-40 / 15W-40

**Manufacturer (07C)**

ADDINOL LUBE OIL GMBH, LEUNA/D  
ARAL AG, BOCHUM/D  
CEPSA LUBRICANTS S.A., MADRID/E  
CEPSA LUBRICANTS S.A., MADRID/E  
KOMPRESSOL-OEL VERKAUFS GMBH, KÖLN/D  
KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL  
KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL  
KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL  
MTU ASIA PTE LTD, SINGAPORE/SGP  
NOVA STILMOIL SPA, MODENA/I  
PAKELO MOTOR OIL S.R.L, SAN BONIFACIO (VR)/I  
PETRONAS LUBRICANTS BELGIUM NV, AARTSELAAR/B  
PRISTA OIL EAD, ROUSSE/BG  
PRISTA OIL EAD, ROUSSE/BG  
PRISTA OIL EAD, ROUSSE/BG  
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/D  
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/D  
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/D  
SHELL INTERNATIONAL PETROLEUM COMP LTD, LONDON/GB  
SHELL INTERNATIONAL PETROLEUM COMP LTD, LONDON/GB  
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/D  
STRUB + CO AG, REIDEN/CH

**Trade name (07C)**

ADDINOL SUPER STAR MX 1547 SAE 15W-40  
ARAL SUPERTURBORAL 5W-30  
CEPSA DIESEL TURBO SHPD 15W-40  
CEPSA SUPER MULTIGRADO SHPD 15W-40  
KOMPRESSOL-ULTRALUB C SAE 15W-40  
Q8 T 500 SAE 15W-40  
Q8 T 710 SAE 15W-40  
Q8 T 750 SAE 15W-40  
FASCINATION OF POWER SAE 15W40  
ORION SUPER PLUS 15W40  
PAKELO PKO HD SUPER 4 SAE 15W/40  
FORZA SAE 15W40  
PRISTA LEADER TD 15W-40  
PRISTA SHPD 15W-40  
PRISTA SHPD VDS-3 15W-40  
RAVENOL FORMEL DIESEL SUPER 15W-40  
RAVENOL MINERALOEL TURBO-PLUS SHPD 15W-40  
RAVENOL TURBO-C HD-C 15W-40  
SHELL RIMULA R3 X 15W-40  
SHELL RIMULA X 15W-40  
SRS MULTI - REKORD TOP  
SUPER MULTI TURBO 15W-40

**Lubricant class 07D**

Engine oil in accordance with Specification  
API CD/CE/CF-4/CF/CG-4/CH-4/CI-4  
or API SF/SG/SH/SJ/SL  
or ACEA-categories A/B/E

**Viscosity grades:**

Product groups in accordance with page 1	SAE viscosity grades
- Powershift transmissions - Continuously variable hydrostatic drives - Mobile mixer drives CML - hydraulic section - Swing drives	5W-30 / 5W-40 / 10W-30 / 10W-40 / 15W-30 / 15W-40 / 20W-20 / 30
- Mobile mixer drives P-series, PK-series and PLM-series	10W-40 / 15W-40

**Note:**

All mineral oil-based gear oils which satisfy the above specifications may be used. There will be no product listing.

**Lubricant class 07E**

Biodegradable lubricant (Special approval)

Viscosity grade: SAE 75W-80

**Instructions on the use of biodegradable lubricants:**

The oil manufacturer's change-over directives included in the product description are to be observed when change-over to biodegradable lubricants is effected.

**Manufacturer (07E)**

PANOLIN AG, MADETSWIL/CH

**Trade name (07E)**

PANOLIN BIOFLUID ZFH

**Lubricant class 07F**  
**Off highway lubricants**  
**Viscosity grades: SAE 30**

**Manufacturer (07F)**

ADDINOL LUBE OIL GMBH, LEUNA/D  
ARAL AG, BOCHUM/D  
BAYWA AG, MÜNCHEN/D  
BAYWA AG, MÜNCHEN/D  
BP INTERNATIONAL, PANGBOURNE, READING/GB  
BUCHER AG LANGENTHAL, LANGENTHAL/CH  
CASTROL INTERNATIONAL, PANGBOURNE READING/GB  
CASTROL INTERNATIONAL, PANGBOURNE READING/GB  
CATERPILLAR INC., PEORIA/USA  
CEPSA LUBRICANTS S.A., MADRID/E  
CHEVRONTEXACO GLOBAL LUBRICANTS, SAN RAMON/USA  
CHEVRONTEXACO GLOBAL LUBRICANTS, SAN RAMON/USA  
CHEVRONTEXACO, GHENT/B  
CHEVRONTEXACO, GHENT/B  
CHEVRONTEXACO, GHENT/B  
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  
GINOUVES GEORGES SA, LA FARLEDE/F  
KUWAIT PETROLEUM R&T B.V., EUROPOORT RT/NL  
LLK FINLAND OY, HAMINA/FIN  
LUBRICANT OIL COMPANY, SINOPEC, BEIJING/CN  
MAZIVA ZAGREB D.O.O, ZAGREB/HR  
MORRIS LUBRICANTS, SHREWSBURY/GB  
OMV REFINING & MARKETING GMBH, WIEN/A  
PETRONAS LUBRICANTS BELGIUM NV, AARTSELAAR/B  
PRISTA OIL EAD, ROUSSE/BG  
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/D  
REPSOL YPF LUBRICANTES Y ESPECIALIDADES, MADRID/E  
SHELL INTERNATIONAL PETROLEUM COMP LTD, LONDON/GB  
SHELL INTERNATIONAL PETROLEUM COMP LTD, LONDON/GB  
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/D  
TOTAL LUBRIFIANTS S.A., PARIS/F

**Trade name (07F)**

ADDINOL FLUID TO-4 SAE 30  
ARAL FLUID TO-4 SAE 30  
BAYWA MOTORENÖL HDC SAE 30  
TECTROL UTTO - TO  
BP AUTRAN 430 SAE 30  
GEAR OIL MEGA TO-4 SAE 30  
CASTROL TFC 430  
CASTROL TRANSMAX OFFROAD 30 SAE 30  
CAT TDTO SAE 30  
CEPSA TRANSMISIONES TO-4 SAE 30  
CHEVRON DRIVE TRAIN FLUID HD SAE 30  
TEXACO TRANSMISSION & DRIVE TRAIN TO-4 OIL SAE 30  
CALTEX TORQUE FLUID 434  
CALTEX TORQUE FLUID 434A  
TEXTRAN HD 30  
ROTRA CT 30  
ESSOTRANS/EXXTRANS 30  
MOBILTRANS HD 30  
TANSHIDO TO-4 SAE 30  
TITAN UTTO TO-4 SAE 30  
YORK 792 SAE 30  
Q8 TO-4 FLUID SAE 30  
TEBOIL FLUID TO-4 SAE 30  
GREAT WALL TRANS FLUID 30  
INA TRANSMATIK 30  
LIQUIMATIC CT 30  
OMV CONSTRUCT TO-4 SAE 30  
CATRALUBE 30  
PRISTA TO-4 30  
RAVENOL CATOEL TO-4 SAE 30  
TRANSMISIONES TO-4 SAE 30  
SHELL DONAX TC 30  
SHELL SPIRAX S4 CX 30  
SRS WIOLIN 430  
TOTAL DYNATRANS AC 30

**Lubricant class 07G**

Biodegradable lubricant (Special approval)

Viscosity grade: ISO VG 46 / 68

**Instructions on the use of biodegradable lubricants:**

The oil manufacturer's change-over directives included in the product description are to be observed when change-over to biodegradable lubricants is effected.

**Manufacturer (07G)**

CATERPILLAR INC., PEORIA/USA

COGNIS DEUTSCHLAND GMBH, MONHEIM/D

COGNIS DEUTSCHLAND GMBH, MONHEIM/D

PANOLIN AG, MADETSWIL/CH

**Trade name (07G)**

CAT BIO HYDO ADVANCED

PROECO HE 801, ISO-VG 46

PROECO HE 801, ISO-VG 68

PANOLIN HLP SYNTH 46

**Lubricant class 07H**

Mineral oil-based hydraulic oil HLP in accordance with DIN 51524-2 or mineral oil-based hydraulic oil HVLP in accordance with DIN 51524-3.

Viscosity grades: ISO VG 46 / 68

**Note:**

All mineral oil-based gear oils which satisfy the above specifications may be used. There will be no product listing.