

Enclosure 1 to SI 23 02 96 (142), edition 02/2019

Due to the variety of gearbox designs combined with widely fluctuating loads, temperatures and speeds, the manual gearbox oil must meet the following requirements:

- Sufficient compressive strength of the lubricant film in order to prevent gear tooth damage.
- No foaming
- No corrosion of the various metals
- No sludge formation
- No separation of additives at the operating temperature
- Noise reduction
- Prevention of blistering, hardening and contraction of the manual gearbox gaskets.

The manual gearbox oil obtains those properties by means of:

- High-pressure additives
- Corrosion inhibitors
- Oxidation inhibitors (inhibitors that restrict or prevent chemical processes)
- Anti-foaming agents.

Note:

Before opening the container, "mix" the transmission oil to distribute the additives evenly through the oil.

Oil additives

BMW manual transmissions are designed in such a way that there is no need to use any supplementary oil additives.

Supplementary oil additives and liability for any kind of consequential loss or damage arising from the use of supplementary oil additives remain unacceptable by the factory.

Enclosure 5 to SI 23 02 96 (142), edition 02/2019

(with yellow label)

Note on transmission designation, for example B manual gearbox, etc.:

Note:

The yellow label with the lettering "MTF-LT-1" is located close to the oil filler plug.

The green label with the lettering "MTF-LT-2" is located close to the oil filler plug.

The blue label with the lettering "MTF-LT-3" is located close to the oil filler plug.

MTF-LT-1 is replaced by MTF-LT-2 and is also suitable for MTF-LT-1 specification transmissions.

These transmissions require no oil change for their entire service life.

After a repair on the transmission, the specified lifetime oil should be used.

SOP = Start of Production

Transmission designation:	Transmission type:	MTF-LT--1	MTF-LT--2	MTF-LT--3	MTF-LT--5
B 5-speed transmission		Replaced by MTF-LT-2			
C 5-speed transmission					
F 5-speed transmission					
D 6-speed transmission	GS6-26..	Replaced by MTF-LT-2			
G 6-speed transmission	GS6-53..	Replaced by MTF-LT-2	SOP until 03/07	from 03/07	
H 6-speed transmission	GS6-37..	Replaced by MTF-LT-2	SOP until 03/07	from 03/07	
I 6-speed transmission	GS6-17..			SOP	
K 6-speed transmission	GS6-45BZ/DZ				SOP

Transmission oil for BMW Motorsport manual gearbox:

Transmission designation:	Transmission type:	MTF-LT--1	MTF-LT--2	MTF-LT--3	MTF-LT--4
G 6-speed transmission	GS6-53..	Replaced by MTF-LT-2			
J 7-speed SMG transmission	GS7-47..	Replaced by MTF-LT-2			

7-gear dual clutch
gearbox

GS7-36..

<i>Trade name</i>	BMW part number	
	Rest of the world	China
Manual gearbox oil MTF-LT-1	superseded by MTF-LT-2	superseded by MTF-LT-2
Manual gearbox oil MTF-LT-2	83 22 2 339 219	83 22 2 365 990
Manual gearbox oil MTF-LT-3	83 22 2 339 221	83 22 2 148 565
Manual gearbox oil MTF-LT-4	83 22 2 339 223	83 22 2 365 991
Manual gearbox oil MTF-LT-5	83 22 2 156 969	83 22 2 156 969

For smaller container sizes, see Electronic Parts Catalogue.

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Note:

This gearbox requires no oil change for the entire running time of the gearbox.

After a repair on the manual gearbox, the specified lifetime oil should be used.

Transmission oil produced after year of manufacture 09/2006 may also be required after having replaced the transmission.

The sticker on the gearbox is decisive.

Caution! The adhesive labels will be omitted from mid-2009.

The manual gearbox oil "MTF-LT--4" is marked by means of a yellow sticker.

Oils must not be mixed with one another.

Transmission oil	MTF2	MTF3	MTF-LT--4
	BMW part number:	BMW part number:	BMW part number:
Rest of the world	2 344 589	2 455 210	2 339 223
China	2 365 990		2 365 991
Transmission	Transmission oil		
GS5-52 BG	MTF-LT--4		
GS5-65 BH	MTF2		
GS6-85 BG/DG	MTF2		
GS6-55 BG	MTF-LT--4		
GS6-53 BG/DG	MTF 2/ MTF-LT-4		
GS6-58BG/DG	MTF 2/ MTF 3 * (observe transmission axle number)		
GS6-59BG/DG	MTF 2/ MTF 3 * (observe transmission axle number)		
GS6-60DA GS6X60DA/BA (AISIN)	MTF 2/ MTF 3 * (observe transmission axle number)		

***Depending on the transmission axle number, the transmission must be filled with either MTF-2 or MTF-LT-3!**

Select the prescribed transmission oil according to the BMW part number (transmission axle number) from the following table!

AISIN transmission	MTF2	MTF3
GS6-60 DA (transmission axle number)	8608542, 8635919, 8655890, 8671140, 8621899, 9643457, 8655893, 8671143	8672170, 9494199, 8672173
GS6X60DA (transmission axle number)	7638383, 8635915, 8655891, 8671141, 8621898, 8643459, 8655894, 8671144	8672171, 9494200, 8672174
GS6X60BA (transmission axle number)	7638382, 8635914, 8655892, 8671142, 8643458, 8655895, 8671145	8672172, 9494203, 8672175

GETRAG transmission	MTF2	MTF3
GS6-58BG/DG (transmission axle number)	7638371, 7638373, 640714, 8687636, 8687637, 8687638, 687640, 8687708, 8687709, 8687710, 687712, 8617531, 8617532, 8617533, 8617534, 8687646, 8687647, 8687648, 8687650, 8689428, 8689429, 8689432	8671580, 8671635, 8671637, 8671641, 8482132, 8482133, 8482134, 8482135
GS6-58DG (transmission axle number)	8687639, 8687712, 8617535, 8617536, 8687649, 8689431	8671586, 8671639, 8689381, 8482136, 8482137, 8482138
GS6--59BG	7638596, 7638597, 8617540	8671647, 8482142
GS6--59DG	7638378, 7638379, 8687641, 8617537, 8617538, 8687651	8671643, 8685380, 8689379, 8689382, 8482139, 8482140, 8482141
GS6-59Control unit	7640047, 7640048, 8687642, 8687643, 8617542, 8617543, 8687652, 8687653	8671600, 8671602, 8482144, 84802145

Enclosure 3 to SI 23 02 96 (142), edition 02/2019

(with orange sticker)

Note:

The orange sticker marked "ATF-Oil!", is in the vicinity of the oil filler plug.

BMW transmission fluid

Trade name BMW part number BMW part number Container size

Rest of the world

China

BMW ATF D2 81 22 9 400 272 83 12 0 434 447 12x1 litre

Approved automatic transmission fluids (ATF) for manual gearboxes

Trade name

Manufacturer/Supplier

AGIP ATF II D

AGIP PETROLI SPA, ROM/I

AGIP ATF D 309

AGIP PETROLI SPA, ROM/I

AUTOL TRANSMISSION FLUID ATF-D

AGIP SCHMIERTECHNIK, WÜRZBURG/D

ARAL TRANSMISSION FLUID ATF 22

ARAL AG, BOCHUM/D

AVIA FLUID ATF 86

AVIA MINERALÖL AG, MUNICH/D

BLASOL 229

BLASER SWISSLUBE, HASLE-RÜEGSAU/CH

FRONTOL UNIVERSAL ATF 100

BP OIL DEUTSCHLAND, HAMBURG/D

AUTRAN MBX

BP OIL INTERNATIONAL, LONDON/GB

MOTOREX ATF SUPER D-22656

BUCHER+CIE AG, LANGENTHAL/CH

CIDISOL HYDRAULIC FLUID DEXRON IID

C.J. DIEDERICHS SÖHNE, WUPPERTAL/D

PAMATIC FLUID 289

CALPAM GMBH, ASCHAFFENBURG/D

CALTEX ATF-HDA

CALTEX PETROLEUM CORP., LONDON/GB

CASTROL TQ-D (22765)

CASTROL LTD, SWINDON/GB

CASTROL TQ-D (21289)

CASTROL LTD, SWINDON/GB

CASTROL ATF 21293

CASTROL LTD, SWINDON/GB

CEPSA ATF-70

CEPSA, MADRID/E

ATF 289

DE OLIEBRON B.V., ZWIJNDRECHT/NL

DEA FLUID 4011

DEA MINERALÖL AG, HAMBURG/D

DEAMATIC

DEA MINERALÖL AG, HAMBURG/D

MAC ATF D-21666

UNIMATIC

TRANSANTAR DF2

ELFMATIC G2 22329

HUILE RENAULT DIESEL STARMATIC

ANTAR 22329

ELLMO AUTOMATIC FLUID 22233

TRANSMISIONES AUTOMATICAS D2

ESSO ATF D (21065)

ESSO ATF D (21611)

FINAMATIC II-D

SILKTRAN MP-ATF

YORK LT 785

ATF 2

KENDALL ATF DEXRON IID

HOMBERG TRANSMISSION FLUID D

IGOL ATF 420

INA-ATF SUPER

TRANSMISSION FLUID DX

SELECTOL FLUID TRANS.FL. IID 23

DEUTZ OEL ATF-D

ATF DEXRON IID

Q8 AUTO 14 (II D-21883)

Q8 AUTO 14 (II D-21677)

LEPRINXOL FLUID CN

MEGOL ATF IID

INTER OIL INTER MATIC ATF D2

PENNASOL FLUID TRANSMISSION FLUID
TYPE PCN

DEUTSCHE SHELL AG, HAMBURG/D

DUCKHAMS OIL, BROMLEY/GB

ELF LUBRIFIANTS, PARIS/F

ELF LUBRIFIANTS, PARIS/F

ELF LUBRIFIANTS, PARIS/F

ELF LUBRIFIANTS, PARIS/F

ELLER-MONTAN-COMP., DUISBURG/D

ERTOIL SA, MADRID/E

ESSO AG, HAMBURG/D

ESSO AG, HAMBURG/D

FINA EUROPE SA, BRUSSELS/B

FUCHS LUBRICANTS (UK), DERBY/GB

GINOUVES GEORGES SA, LA FARLEDE/F

GULF OIL LTD, CHELTENHAM/GB

HANDEL-MIJ NOVIOL B.V., NIJMEGEN/NL

HOMBERG GMBH+CO KG, WUPPERTAL/D

IGOL FRANCE, PARIS/F

INA D.D. RAFINERIJA ZAGREB/HR

ITALIANA PETROLI, GENOVA/I

KÄPPLER K., STUTTGART/D

KLÖCKNER ENERGIEHANDEL GMBH,
COLOGNE/D

KROON OIL BV, ALMELO/NL

KUWAIT PETROLEUM, HOOGVLIET/NL

KUWAIT PETROLEUM, HOOGVLIET/NL

LEPRINCE+SIVEKE GMBH, HERFORD/D

LIQUI MOLY / MEGUIN, ULM/D

MAURAN SA, ODARS/F

MIN.ÖL.RAFFIN. DOLLBERGEN, UETZE/D

MOBIL ATF 220 D21412/D22187
MOBIL ATF 220 D20104/D21685
CARRIER ATF
LIQUIMATIC DII

TASSILIA
NANHAI ATF (D2)
GALAX MATIC DAC

ATF T 4011
OMV ATF D II (D22427)
OPTIMOL ATF T 4011
UNIVERSAL ATF-D

MULTIPURPOSE TRANSM. FLUID IID
PANOLIN ATF MULTI 21996
AERO-LINE ATF-D
AERO-LINE ATF-2

REPSOL MATIC ATF

GULF ATF DII D-22233
WINTERSHALL ATF D

ASEOL ATF DB UNIVERSAL
SHELL DONAX TA (D-21666S)
SHELL ATF 9226
MADIT AUTOMATIC
DEXRON 2 D
SOPRAL 164
TECNOL TECMATIC D2
SUNAMATIC 149
SUNAMATIC 153

TAMOIL ATF II D
TEXAMATIC 4291
TEXAMATIC 4011

MOBIL OIL, WEDEL/D
MOBIL OIL, WEDEL/D
MOL HUNGARIAN OIL, KOMARON/H
MORRIS LUBRICANTS, SHREWSBURY/GB

NAFTEC, ALGIER/DZ
NANHAI SUPERIOR LUB-OIL, CHINA
NIS-RAFINERIJA NAFTE BEOGRAD/YU

OEST G. MIN.ÖLWERK, FREUDENSTADT/D
OMV-AG, SCHWECHAT/A
OPTIMOL ÖLWERKE, HAMBURG/D
OSWALD KLUTH, BARGFELD-STEGER/D

PAKELO MOTOR OIL, SAN BONIFACIO/I
PANOLIN AG, MADETSWIL/CH
PRINZ-SCHULTE, FRECHEN/D
PRINZ-SCHULTE, FRECHEN/D

REPSOL DISTRIBUCION SA, MADRID/E

S.A.E.L., ALCOBENDAS/E
SCHMIERSTOFFRAFFINERIE
SALZBERGEN/D

SHELL ASEOL AG, BERN/CH
SHELL INTERNATIONAL, LONDON/GB
Shell International Petroleum Company Ltd
SLOVNAFT JS CO, BRATISLAVA/SK
SONOL ISRAEL LTD, HAIFA/IL
SOPROGRASA SA, MADRID/E
STL TECNOL, ESCALQUENS/F
SUN OIL COMPANY, AARTSELAAR/B
SUN OIL COMPANY, AARTSELAAR/B

TAMOIL LUBES, GENEVA/CH
TEXACO SERVICES LTD, BRUSSELS/B
TEXACO SERVICES LTD, BRUSSELS/B

TEXAMATIC 4261	TEXACO SERVICES LTD, BRUSSELS/B
TOTAL FLUIDE IID	TOTAL RAFFINAGE DISTR., PARIS/F
TOTAL FLUIDE ATX	TOTAL RAFFINAGE DISTR., PARIS/F
TOTAL FLUIDE ATD	TOTAL SOUTH AFRICA, JOHANNESBURG/ZA
TURBO UNIV. ATF MERCON 4011	TURBOTANK BÖSCHE+BÖDEKER, BREMEN/D
UFALUB ATF	UFANEFTECHIM REFINERY, UFA/RUS
UNIL MATIC CN T 4011	UNIL DEUTSCHLAND GMBH, BREMEN/D
VALVOLINE MULTI-PURPOSE ATF	VALVOLINE INC., LEXINGTON/USA
VALVOLINE ATF TYPE D	VALVOLINE INTERNAT., DORDRECHT/NL
MOVARA ATF TRANSMISSION FLUID DIID	VEBA OEL AG, GELSENKIRCHEN/D
VEEDOL ATF-M (22764)	VEEDOL INTERNATIONAL, SWINDON/GB
YACCO ATF D	YACCO SA, ST PIERRE-LES-ELBEUF/F
DIVINOL FLUID 666	ZELLER+GMELIN GMBH&CO, EISLINGEN/D

Enclosure 4 of SI 23 02 96 (142), issue 08/2018

(with green label)

Note:

The green label with "Special Oil!" written on it is located near the oil filler plug.

Trade name	BMW part number	Container size
Manual transmission fluid	81 22 9 407 305	20-litre canister

Transmission oil (4-gear manual transmission)

Trade name	BMW part number	Container size
MTF1	81 22 2 339 384	1-litre canister

Additionally, all mineral-oil-based transmission oils in viscosity grade SAE 80 may be used in accordance with the specification MIL-L-2105 or API-GL-4.

Note:

To reduce cold shift forces in low outside temperatures, the following oils may be used for the transmission during the cold seasons:

- Mineral-oil-based single-grade HD engine oils SAE40, SAE30, SAE20
- In countries with particularly low outside temperatures, ATF oils (see enclosure 4.0) may also be used.

The disadvantage of this is that increased transmission rattling and/or idling rattling may occur at higher temperatures.

Attention!

The use of synthetic engine oils or multi-grade oils is not permitted under any circumstances, as these contain friction coefficient reducers that can impair the function of the synchronising assembly.

Enclosure 7 to SI 23 02 96 (142), edition 02/2019

Note:

This gearbox requires no oil change for the entire running time of the gearbox.

Following repairs to the manual transmission, only use the specified lifetime oil.

Oils must not be mixed with one another!

Transmission oil:	MTF2	MTF3
BMW part number:	2 344 589	2 455 210

Caution!

Failure to comply with this requirement will result in damage to the transmission!

The following transmissions must be filled with either MTF 2 or MTF 3 transmission oil.

Select the prescribed transmission oil according to the BMW part number (transmission axle number) from the following table!

AISIN transmission	MTF2	MTF3
GS6-60 DA (transmission axle numbers)	8608542, 8635919, 8655890, 8671140, 8621899, 9643457, 8655893, 8671143	8672170, 9494199, 8672173
GS6X60DA (transmission axle numbers)	7638383, 8635915, 8655891, 8671141, 8621898, 8643459, 8655894, 8671144	8672171, 9494200, 8672174
GS6X60BA (transmission axle numbers)	7638382, 8635914, 8655892, 8671142, 8643458, 8655895, 8671145	8672172, 9494203, 8672175

GETRAG transmission	MTF2	MTF3
GS6-58BG/DG (transmission axle numbers)	8635910, 8635918, 8687713, 8687715, 8644447, 8644449, 8689433, 8689435	8671580, 8671635, 8671637, 8671641, 8482132, 8482133, 8482134, 8482135
GS6-58DG (transmission axle numbers)	8635911, 8687714, 8644448, 8689434	8671586, 8671639, 8689381, 8482136, 8482137, 8482138
GS6-59BG (transmission axle numbers)	8644452	8671647, 8482142, 8482143
GS6-59DG (transmission axle numbers)	8635912, 8635913, 8635916, 8644450, 8644451	8671643, 8685380, 8689379, 8689382, 8482139, 8482140, 8482141
GS6-59SG (transmission axle numbers)		8671600, 8671602, 8482144, 8482145

Enclosure 1 to SI 28 01 08 (001), edition 02/2019

Note:

The green label labelled "Lifetime Fill" is located in the area of the oil filler plug.

BMW transmission fluid

For vehicles up to December 2015 (except F87)

<i>Trade name</i>	<i>BMW part number</i>	<i>Container size</i>
Twin-clutch gearbox oil BMW DCTF-1	83 22 2 148 578	1-litre can
Twin-clutch gearbox oil BMW DCTF-1	83 22 2 148 579	20-litre can

BMW transmission oil **only** for the US market:

<i>Trade name</i>	<i>BMW part number</i>	<i>Container size</i>
Twin-clutch gearbox oil BMW DCTF-1	83 22 0 440 214	1-litre can
Twin-clutch gearbox oil BMW DCTF-1	83 22 2 147 477	20-litre can

For F87 and for all vehicles from January 2016:

<i>Trade name</i>	<i>BMW part number</i>	<i>Container size</i>
BMW DCTF-1+ double-clutch gearbox oil	83 22 2 446 673	1-litre can

Note:

Vehicle up to December 2015 can also be filled with BMW DCTF-1+!

Enclosure 2 to SI 21 02 96 (141), edition 06/2006

<i>Trade name</i>	<i>BMW part number</i>	<i>Container size</i>
Pentosin CHF11S	81 22 9 407 758	1-litre can

(*) all SMG variants