

# MAINTENANCE AND SERVICE PRODUCT RECOMMENDATION 2025

MAN Truck and MAN Individual



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# MAINTENANCE AND SERVICE PRODUCT RECOMMENDATION 2025



MAN Truck and MAN Individual



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## GENERAL INFORMATION ABOUT SERVICE LITERATURE

### MAN service outlet

A MAN service outlet is a specialist workshop belonging to the MAN service network. The workshop works in accordance with MAN Truck & Bus SE specifications and is authorised to carry out warranty work.

Information about MAN service outlets is available in the MAN Service Portal.

<https://manserviceportal.eu>

### Specialist workshop

A specialist workshop is a workshop qualified to carry out work on vehicles. The workshop must have technically qualified personnel plus the required tools and equipment to be able to perform the maintenance and repair work according to MAN Truck & Bus SE specifications.

### Maintenance and Service Product Recommendation

The Maintenance and Service product Recommendation contains comprehensive information:

- on the maintenance system

- on the service products recommended by MAN Truck & Bus SE
- on maintenance intervals for service products
- on fill quantities

The Maintenance and Service product Recommendation is not supplied with the vehicle. This is available in the freely accessible area of the MAN Service Portal in the section "Workshop information".

<https://manserviceportal.eu>

### Maintenance checklists

The maintenance checklists describe the scope of the maintenance work that must be performed on the vehicle after a fixed number of kilometres or after a certain time interval.

The content of the maintenance checklists is regularly updated according to technical developments. For this reason, you should always use the current maintenance checklists to perform the maintenance work.

The maintenance checklists are not supplied with the vehicle.

These are published in the MAN Service Portal and can be viewed after successful registration.

<https://manserviceportal.eu>

### Maintenance instructions

This describes the maintenance work to be performed on the vehicle.

The maintenance instructions are not supplied with the vehicle.

These are published in the MAN Service Portal and can be viewed after successful registration.

<https://manserviceportal.eu>

### Maintenance record

Maintenance work carried out in the maintenance record is confirmed by the MAN service outlet or specialist workshop. If the maintenance record is recorded digitally, the MAN service outlet or specialist workshop will issue printed individual or complete verification on request. The proper and timely execution of maintenance work is a prerequisite in the event of warranty claims being asserted.

Works not included in the specified scope of maintenance must still be documented in the printed maintenance record (for example replacement of units, retrofits or conversions).

In case of an existing repair and maintenance contract, the cost shall only be covered if maintenance and repair work which is part of the MAN Truck & Bus SE service scope is carried

## Introduction

### General information about service literature

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out by an MAN service outlet with MAN genuine parts.

The maintenance record contains information:

- on liability for defects
- on the maintenance system
- on the service products recommended by MAN Truck & Bus SE that are necessary for the driver to operate the vehicle
- on maintenance intervals for the units that may be relevant for a workshop appointment prior to the first annual inspection.

Information on other service products for maintenance and repair can be found in this maintenance and service product recommendation.

## Registered trademarks

MAN Truck & Bus SE and/or other companies of the TRATON GROUP are holders of a variety of registered trade marks in Germany, in other European countries and/or in many other nations worldwide.

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<https://manserviceportal.eu>

If a brand designation is not included in this list and/or is not marked as a trademark in a text, this cannot be interpreted as an indication that said brand designation is not a registered trademark and/or that said brand designation is allowed to be used without prior written consent.

## Further information

Further information on vehicle maintenance can be found in the Operator's manual, which is included in the vehicle's scope of delivery.

## MAN Individual (factory modifications)

MAN factory modification is included in the warranty.

In order to obtain the warranty and to ensure the longest possible service life, the respective service intervals must be adhered to. The maintenance work must be documented in the maintenance record.

## MAINTENANCE WORK

### General information on maintenance work

Maintenance work is preventive in character. It does not involve repairs. Repairs must be dealt with separately.

The specified maintenance work must be performed at an MAN service outlet or specialist workshop by qualified specialist personnel. Having maintenance work performed at an MAN service outlet or a specialist workshop is one of the best ways to ensure that the vehicle retains its value.

Properly completed maintenance records and the copies of the maintenance checklists handed over to the customer by the MAN service outlet or specialist workshop detailing the maintenance work that has been carried out and confirmed allow for complete documentation of the maintenance of the vehicle. They are also a prerequisite for all warranty claims to liability for defects.

### Vehicle maintenance

To maintain the operational and road safety of the vehicle, it is essential that you comply with the maintenance appointments and the statutory inspections prescribed by MAN Truck & Bus SE.



#### WARNING

##### Danger of engine damage

If the maintenance appointments prescribed by MAN Truck & Bus SE are not complied with, particularly when changing the engine oil, there is a risk of (sudden) engine damage, whereby fire cannot be ruled out as an extreme consequence of engine damage.

Therefore:

- It is essential that you comply with the maintenance appointments and maintenance work prescribed by MAN Truck & Bus SE.

In addition, the maintenance work set out in the Operator's manual must also be carried out.

## Maintenance system

### Maintenance scope and maintenance intervals

## MAINTENANCE SCOPE AND MAINTENANCE INTERVALS

The maintenance system is used for vehicles of the following series:

- TGL and TGM
- TGS and TGX

Scope of maintenance and maintenance intervals are specified in the maintenance checklists.

Information about change intervals for the service products can be found in the chapter "Maintenance intervals" (see "General information about maintenance intervals", Page 53).



### WARNING

#### Danger of engine damage

If the maintenance intervals are exceeded, particularly when changing the engine oil, there is a risk of (sudden) engine damage, whereby fire cannot be ruled out as an extreme consequence of engine damage.

Therefore:

- It is essential that you comply with the maintenance intervals prescribed by MAN Truck & Bus SE.

### Structure and designation of the maintenance checklists

#### Acceptance sheet

The acceptance sheet test contains information regarding:

- Customer
- Tractor vehicle
- Maintenance order

#### Initial inspection

The initial inspection must be performed after between 4,000 km and 5,000 km. Information on the necessity of the initial inspection can be found on page 5 of the maintenance record.

#### Annual inspection

The annual inspection must be performed at least every 12 months.

#### Maintenance work dependent on time-intervals or mileage

Maintenance work dependent on time-intervals is performed at the same time as the annual inspection.

Maintenance work dependent on mileage may be due at the same time as the annual inspection or at another time.

#### Winter service

To maintain operational and vehicle safety, the winter service is to be performed before the start of the cold season.

## SCOPE OF MAINTENANCE AND MAINTENANCE INTERVALS WITH PROFIT-CHECK II

The "ProFit-Check II" maintenance system is applicable to vehicles from the TGA series. Scope of maintenance and maintenance intervals are specified in the maintenance checklists.

Information about change intervals for the service products can be found in the chapter "Maintenance intervals" (see "General information about maintenance intervals", Page 53).

### Maintenance checklists

#### Acceptance and oil-change sheet

The Acceptance and Oil-Change Sheet contains information on:

- Oil-change intervals for all units
- Additional work in conjunction with the respective oil-change
- Additional maintenance work, as due
- Maintenance intervals for steering

#### First service

The first service must be performed between 1,000 km and 5,000 km.

#### S12 service

The S12 service must be carried out in each operating year (after 12 months in each case). The S12 service is independent of the service with engine oil-change.

#### Service with engine oil-change

This service covers all maintenance work that has to be carried out after a certain mileage. The reference variable for this service is the maximum engine oil-change interval.

#### Service with engine oil-change + S12

The work for the service with engine oil-change and for the S12 service is carried out simultaneously during a single workshop visit, after 12 months when the engine oil-change is due.

#### Reconditioned engine service

This maintenance work is performed once after installation of a replacement engine. The normal service intervals of the vehicle then apply.

#### Winter service

To maintain operational and vehicle safety, the winter service is to be performed before the start of the cold season.

## MAINTENANCE INTERVAL CALCULATOR

### Maintenance interval calculator switched on



#### Note

In vehicles from emission standard Euro 6c, it is not permitted to deactivate the maintenance interval calculator (maintenance system in vehicle).

Exclusively the currently applicable maintenance checklists are to be used to carry out the maintenance work.

The completion of a service must be entered in the vehicle's maintenance interval calculator.

The next service due is determined by a maintenance interval calculator in the vehicle and appears on the driver's display. It is possible to have statutory inspections displayed.

### Maintenance interval calculator switched off

Exclusively the currently applicable maintenance checklists are to be used to carry out the maintenance work.

The next service due must be entered in the maintenance record. If the maintenance work carried out is recorded in the digital maintenance record, the next service due can be seen in the individual or complete record.

## FUELS

### Approval of fuels and fuel additives



#### Note

Information on the labelling of approved fuels is contained in the Operator's manual of the vehicle.

Information on permissible fuels for MAN engines is available in the freely accessible area of the MAN Service Portal.

<https://manserviceportal.eu>

### Engine starting aid



#### WARNING

##### Danger of engine damage

Engine starting aids of any kind can cause engine damage.

Therefore:

- Do not use engine starting aids.

MAN Truck & Bus SE does not accept warranty claims for resulting damage.

### Fuel additives



#### WARNING

##### Danger of engine damage

Fuel additives are permissible if the fuels remain compliant with the standards EN 590, EN 14214 or EN 15940 when used. Fuel additives that do not guarantee this may cause engine damage.

Therefore:

- Do not use fuel additives that change the quality of the approved fuels in such a way that they no longer comply with the respective standard.

MAN Truck & Bus SE does not accept warranty claims for resulting damage.

## Service products

### Mineral diesel fuel

#### Mineral diesel fuel

##### Diesel fuel quality requirements

In all countries of the European Union, the diesel fuel must comply with the standard EN 590.

All vehicles can be operated without restrictions using the mixtures of 7% FAME by vol. and diesel fuel currently legally permitted in the EU. In the case of other mixtures, the restrictions and maintenance instructions are the same as those that apply to operation with pure FAME fuel.

From the Euro 6 emission standard onwards, the diesel fuel must comply with the standard EN 590.

Outside the European Union, for the emission standards up to and including Euro 5 and EEV, the country-specific regulations must be observed.

If the sulphur content in the diesel fuel exceeds 50 ppm, the engine oil-change interval must be shortened. Information on shortened oil-change intervals can be found in the chapter "Maintenance intervals" (see "General information about maintenance intervals", Page 53).

The maximum permissible sulphur content in the diesel fuel for vehicle configurations up to and including Euro 5 and EEV can be found in the following table:

This is merely technical approval.

However, MAN Truck & Bus SE offers no assurance that the certified emission values of the respective emission standard are complied with when using fuels with a higher sulphur content than in EN 590.

The use of such fuels is only permissible in countries where such use complies with the respective country-specific regulations.

Emission standard	EGR	AGN	Sulphur content in diesel fuel (ppm)
Euro 2	No	No	Not limited
Euro 3	No	No	Not limited
	Yes	No	Up to 500
Euro 4 (without D08 SCR)	Yes	PM-KAT	Up to 50
	Yes	CRT	Up to 10
	No	SCR	Not limited
Euro 4 D08 with SCR	No	SCR	Up to 2,000
	Yes	PM-KAT	Up to 50
Euro 5 (without D08 SCR)	Yes	DOC	Up to 50
	No	SCR	Not limited
Euro 5 D08 with SCR	No	SCR	Up to 2,000
	Yes	PM-KAT	Up to 50
EEV	Yes	CRT	Up to 10
	No	SCR	Not limited

## Water content and total contamination

The permitted water content in the diesel fuel is at most 200 ppm. If this limit is exceeded, a water trap must be installed. The permitted total contamination of the diesel fuel must not exceed 24 ppm.

## Fuel recommendation for winter operation

At ambient temperatures of below 0 °C, diesel fuel deposits paraffin crystals which increase the flow resistance in the fuel filter so much that an adequate fuel supply is no longer guaranteed.

To ensure trouble-free operation during winter, you must use winter diesel fuel for which the fuel manufacturer guarantees operational reliability in addition to compliance with the EN standard.



### WARNING

#### Danger of engine damage

Mixing petrol with diesel fuel can lead to engine damage.

Therefore:

- Do not add petrol to the diesel fuel.

Drain the fuel pre-filter and fuel tank as necessary before the onset of winter.

## Up to Euro 6c

At ambient temperatures below -10 °C, MAN Truck & Bus SE recommends installing fuel fil-

ter heating for vehicles up to emission standard Euro 6c.

## From Euro 6d and downgrade engines D26 Euro 2, Euro 5

The fuel is pre-heated via a mixing valve in the fuel pre-filter. This provides a fuel supply down to an ambient temperature of -20 °C. For lower ambient temperatures, the fuel filter must be equipped with an electric heater.

Ambient temperature up to (°C)	Fuel recommendation
0	Summer diesel fuel
-10	Winter diesel fuel
-20	Winter diesel fuel and fuel filter heating
-30	Arctic-quality winter diesel fuel and fuel filter heating

## Hazard classes



### WARNING

#### Risks to humans and the environment

Diesel fuel can be a risk to humans and the environment.

Therefore:

- Comply with the country-specific statutory and internal provisions regarding occupational and environmental protection.

## Service products

### FAME fuel (biodiesel)

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#### FAME fuel (biodiesel)

##### FAME fuel in accordance with EN 14214

Fatty acid methyl ester (FAME) is a fuel composed of vegetable oils, which is also known as biodiesel. The best known example is Rapeseed oil Methyl Ester (RME).

The FAME fuel must comply with the European standard EN 14214.

Note the following requirements and restrictions when using FAME.

##### Possible uses and miscibility

Vehicles that are approved for use with FAME fuel according to EN 14214 may also be operated with diesel fuel according to EN 590.

Special specifications apply to vehicles that are approved for use with FAME fuel in compliance with EN 14214 and paraffinic diesel fuel in compliance with EN 15940.

Information about this can be found in the chapter (see "Paraffinic diesel fuels", Page 18).

##### Vehicle operation with FAME up to and including emission standard Euro 5 and EEV

If a vehicle is subsequently converted to FAME operation, a function parameter (FUP) must be applied for and installed.

If the vehicle is no longer operated with FAME, the FUP must be removed again.

##### Vehicle operation with FAME as of emission standard Euro 6

Vehicles that are to be operated with FAME must be ordered with the "operation with biodiesel" equipment.

The vehicles for which the "operation with biodiesel" equipment is available can be found in the information available to the sales organisations in the individual countries.

With respect to the FAME quality, the operation of auxiliary heaters and the general instructions for the operation of vehicles with FAME, these regulations also apply to Euro 6 vehicles.

##### Not approved for operation with FAME

- All vehicles with CRT up to and including emission standard Euro 5 and EEV (individual approvals possible by MAN Truck & Bus SE)
- All horizontal Common Rail engines up to and including the Euro 5 emission standard and EEV
- All Euro 6 engines that are not approved for operation with FAME fuel in compliance with EN 14214

##### Vehicles with CRT only upon approval

In the case of vehicles equipped with CRT, the decision as to whether use of FAME is possible or not depends heavily on the phosphorous and alkali content of the FAME fuel used as well as on the application conditions.

This may result in "contamination" of the catalytic converter from sulphur due to the chemicals involved.

Physically, it may result in "blockages" (due to the pores becoming blocked with soot). This problem is independent of the engine type, engine or vehicle manufacturer.

Close examination of the operating conditions is therefore required to determine whether and, if applicable, under which circumstances / restrictions it is possible to use FAME fuel.

Vehicles equipped with CRT are only allowed to be operated using FAME following individual approval from MAN Truck & Bus SE.

Further information is available from the MAN service outlets.

If vehicles are operated without approval from MAN Truck & Bus SE, the liability for defects shall not apply to any resulting damage.

##### Subsequent conversion to FAME

You can request whether a vehicle can subsequently be converted to FAME operation using a MANTEDE online request ([www.manted.de](http://www.manted.de)).

## Alternating operation with FAME fuel according to EN 14214 and diesel fuel

For diesel engines that are approved for FAME fuel and diesel fuel, shortened change intervals for engine oil, engine oil filter and fuel filter apply.

The corresponding information can be found in the chapter "Maintenance intervals" (see "General information about maintenance intervals", Page 53).

## Injectors

Some FAME fuels may cause injectors to become clogged. Do not replace the injectors straight away in this case, but run two tankfuls of approved mineral diesel fuel.

## Decommissioning

Before decommissioning for longer than four weeks, the entire fuel system must be flushed by running with at least two tankfuls of approved diesel fuel.

## Auxiliary heater

The following auxiliary heaters are approved for FAME operation:

- Airtronic D4S
- Hydronic D5WSC
- D1LCC
- D3LCC

## Warranty

The contractually agreed warranty applies to all engines approved for operation with FAME fuel, except vehicles equipped with CRT.

The agreements reached on a case-by-case basis apply to vehicles with CRT.

In case of damages to the injection system (high-pressure pump, Common Rail injection system, injectors, injection pump, injection nozzles), a fuel sample (about 0.5 litres from the middle of the fuel content) must be ensured. If required, the sample will be requested by the department in the plant that is inspecting the case. Information on clogged injectors can be found in this chapter.

## Fuel recommendation for winter operation



### WARNING

#### Danger of engine damage

Mixing petrol with FAME fuel can lead to engine damage.

Therefore:

- Do not add petrol to the FAME fuel.

Drain the fuel pre-filter and fuel tank as necessary before the onset of winter.

In case of start problems in winter, use mineral diesel fuel.

## Service products

### Paraffinic diesel fuels

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#### Paraffinic diesel fuels

##### Paraffinic diesel fuels in accordance with EN 15940

Paraffinic diesel fuels must comply with the standard EN 15940. This standard specifies the quality requirements for paraffinic diesel fuels.

Examples of paraffinic diesel fuels:

- HVO: Hydrotreated Vegetable Oils
- GTL: Gas to Liquid

##### Possible uses and miscibility

Vehicles that are approved for use with paraffinic diesel fuel in compliance with EN 15940 may also be operated using diesel fuel in compliance with EN 590.

For vehicles that are approved for paraffinic diesel fuel according to EN 15940 and for FAME fuel in compliance with EN 14214, proceed as follows in alternating operation: If FAME fuel is changed to paraffinic diesel fuel and vice versa, interim operation with a tank filling of diesel fuel in accordance with EN 590 is recommended. To ensure operational safety, it is also recommended that the fuel filter be replaced afterwards.

#### Oil-change intervals for operation with paraffinic diesel fuels

For diesel engines that are approved for paraffinic diesel fuel according to EN 15940, the same change intervals apply for engine oil, engine oil filter and fuel filter as for operation with diesel fuel according to EN 590.

For diesel engines that are approved for FAME fuel and paraffinic diesel fuel, shortened change intervals for engine oil, engine oil filter and fuel filter apply.

The corresponding information can be found in the chapter "Maintenance intervals" (see "General information about maintenance intervals", Page 53).

#### Fuel recommendation for winter operation

The same fuel recommendations as for operation with diesel fuel in compliance with EN 590 apply. Information about this can be found in the chapter (see "Mineral diesel fuel", Page 14).

## Micro-organisms in the fuel system

Diesel fuels and FAME fuels may be contaminated with micro-organisms, which could multiply under unfavourable circumstances. These micro-organisms may multiply when exposed to condensation water, sulphur, phosphorus, nitrogen, oxygen, trace elements and fuel additives. Depending on the temperature conditions, the micro-organisms may multiply to various extents. This leads to the formation of fibrous fungal braids and sludge, leading to microbial corrosion in the fuel tank and fuel lines. The fuel filters then become blocked with rust particles and biomass. The result is a reduction in engine performance, ultimately ending in the vehicle becoming immobilised. The fuel filters then have to be replaced at relatively short intervals.

### Preventive measures

To prevent the formation of microorganisms in the fuel system:

- Keep storage tanks clean
- Only park the vehicle for extended periods when the fuel tank is full

### Remedies

If fuel system or storage tanks have already been affected by microorganisms, MAN Truck

& Bus SE recommends using the following disinfectant:

- Bakzid

Please note that the fuel tanks or storage tanks need to be drained prior to the application of disinfectants because the disinfectant binds with water. Water bound in the fuel can damage the injection system.



#### Note

Always refer to the current safety data sheets and technical data sheets before using the disinfectants indicated.

## ADBLUE

### Effect of AdBlue

By adding a reducing agent (trade name AdBlue) in the exhaust gas treatment system, pollutants in the exhaust gas (nitrogen oxide NO<sub>x</sub>) are turned into eco-friendly substances (nitrogen and water vapour).



#### Note

If a vehicle is equipped with an AdBlue system, operation of this vehicle with a reducing agent is necessary in order to comply with emissions standards, and is therefore a condition for type approval within the EU.

- DIN 70070
- Only use suitable storage and filling systems in order to avoid loss of quality.

### Environmental note

AdBlue is easily decomposed by microbes. It is therefore readily biodegradable. This means that AdBlue presents very little danger to the environment.

Therefore, in Germany, AdBlue has been placed in the lowest water hazard class WHC 1. AdBlue is an aqueous solution which poses no significant risks according to the applicable EU chemical laws.



#### WARNING

##### Danger of engine damage

AdBlue is not an additive and can lead to engine damage in combination with diesel fuel.

Therefore:

- Do not mix AdBlue with diesel fuel.
- Only use AdBlue **without additives/auxiliary agents** in accordance with the following standards:
  - ISO 22241

## SERVICE PRODUCTS IN ACCORDANCE WITH MAN COMPANY STANDARD

### Use of service products

MAN recommends using MAN Genuine service products. MAN reserves the right to refuse any material defects or warranty claims if the fault for which such claims are made by the customer originates from the use of a specific service product from another supplier.

If several specifications are permissible, the initial fill is written in **bold**.



#### Note

Further information on service products can be found in the service product database or is available from the MAN service outlets.

<https://manserviceportal.eu>

## Service products

Service products in accordance with MAN company standard

### MAN Genuine Oil

**MAN Genuine Oil – less friction, more efficiency.**

Engine oil, gearbox oil, axle oil.



The most important thing when it comes to motorisation and technology is without a doubt the optimum coordination of all components. MAN Genuine Parts fulfil this prerequisite. MAN Genuine Oil is the perfect complement to the core components of an MAN vehicle, for engine, gearbox, driven axles and transfer case. MAN Genuine Oils are proven to provide optimum protection against wear, and thus contribute to a longer lifespan and reduce overall operating costs (TCO).

**Only the best MAN oil is good enough for MAN vehicles. MAN Genuine Oil.**

**MAN Genuine Oil: Our favourites**

MAN Genuine Oil is always the right choice. We recommend these favourites.

**Paragon MAN 3977 5W-20****MAN Genuine Engine Oil**

- Increased fuel savings compared to Excellence MAN 3677 with identical performance characteristics
- Maintenance intervals up to 140,000 km (for MAN engines from Euro 6d)
- Service intervals for diesel particulate filters up to 850,000 km
- Low-viscosity Fuel Economy oil in accordance with the state-of-the-art

**Excellence MAN 3677 5W-30****MAN Genuine Engine Oil**

- Service intervals of up to 140,000 km
- Service intervals for diesel particulate filters up to 850,000 km
- Longer service life, even under extreme loads
- High efficiency and performance with minimal oil consumption

**Flexor MAN 341 Z5 75W-80****MAN Genuine gearbox oil**

- High oxidation resistance and thermal stability, even with long oil-change intervals
- Optimum viscosity for unproblematic cold starts and smooth shifting at low temperatures
- Long service life of the gearbox, even under extreme operating conditions and ambient temperatures
- High efficiency and performance



Note: Specific information on service products and other regulations in this Maintenance and Service Product Recommendation must be observed!

## Service products

Service products in accordance with MAN company standard

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### Nexus MAN 342 S1 75W-90

#### MAN Genuine axle oil

- High oxidation resistance and thermal stability, even with long oil-change intervals
- Prevention of oil sludge formation thanks to cleaning effect
- Long service life of driven axles and transfer cases, even under extreme operating conditions and ambient temperatures
- High efficiency and performance



Note: Specific information on service products and other regulations in this Maintenance and Service Product Recommendation must be observed!

## ENGINE OILS

### Engine oils for diesel engines

Diesel engine	Sulphur content in diesel fuel (ppm)	Approved engine oil in accordance with MAN company standard			
		M 3277	M 3377	M 3677	M 3977
Euro 0	Not limited	Yes	Yes	No	No
Euro 1	Not limited	Yes	Yes	No	No
Euro 2	D08 and D28	Not limited	Yes	Yes	No
	D20 and D26	Up to 50	Yes	Yes	No
		Over 50	Yes	Yes	No
Euro 3	without/with EGR	Up to 50	Yes	Yes	No
	without EGR	Over 50	Yes	Yes	No
	with EGR	51 to 500	Yes	Yes	No
	without / with EGR, with CRT	Up to 10	No	No	Yes
Euro 4	with EGR, with PM-KAT	Up to 50	No	No	Yes
	with EGR, with CRT	Up to 10	No	No	Yes
	without EGR, with SCR	Up to 50	Yes	Yes	No
	without EGR, with SCR	Over 50	Yes	Yes	No
	D08 without EGR, with SCR	Up to 50	Yes	Yes	No
		51 to 2,000	Yes	Yes	No

## Service products

### Engine oils for diesel engines

Diesel engine	Sulphur content in diesel fuel (ppm)	Approved engine oil in accordance with MAN company standard				
		M 3277	M 3377	M 3677	M 3977	
Euro 5	D08 with EGR with DOC	Up to 50	Yes	Yes	Yes	No
	D08 without EGR, with SCR	Up to 50	Yes	Yes	Yes	No
		51 to 2,000	Yes	Yes	No	No
	D20, D26 with EGR, with DOC	Up to 50	Yes	Yes	No	No
	with EGR, with PM-KAT	Up to 50	No	No	Yes	No
	without EGR, with SCR	Up to 50	Yes	Yes	Yes	No
	without EGR, with SCR	Over 50	Yes	Yes	No	No
	with EGR, with PM-KAT	Up to 50	No	No	Yes	No
EEV	with EGR, with CRT	Up to 10	No	No	Yes	No
	without EGR, with SCR	Up to 50	Yes	Yes	Yes	No
	without EGR, with SCR	Over 50	Yes	Yes	No	No
	D20, D26 with EGR, with SCR + CRT	Up to 10	No	Yes <sup>1</sup>	Yes	No
Euro 6a	D20, D26, D38 with EGR, with SCR + CRT	Up to 10	No	Yes <sup>1</sup>	Yes	No
Euro 6b	D08 with EGR, with SCR + CRT	Up to 10	No	Yes <sup>1</sup>	Yes	No
Euro 6b/c	D08 without EGR, with SCR + CRT	Up to 10	No	No	Yes	No
Euro 6c	D20, D26, D38 with EGR, with SCR + CRT		No	No	Yes	No

**Service products**  
Engine oils for diesel engines

Diesel engine	Sulphur content in diesel fuel (ppm)	Approved engine oil in accordance with MAN company standard			
		M 3277	M 3377	M 3677	M 3977
Euro 6d	Up to 10	No	No	Yes	No
		No	No	Yes	No
		No	No	Yes	No
		No	No	Yes	Yes <sup>2</sup>
		No	No	Yes	Yes <sup>2</sup>
		No	No	Yes	No

## Service products

### Engine oils for diesel engines

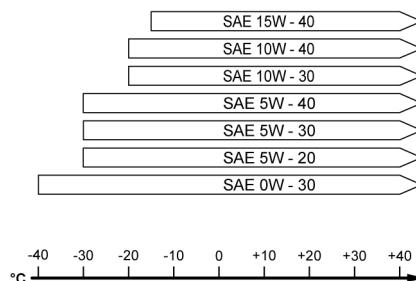
Diesel engine	Sulphur content in diesel fuel (ppm)	Approved engine oil in accordance with MAN company standard			
		M 3277	M 3377	M 3677	M 3977
Euro 6e	Up to 10	No	No	Yes	No
		No	No	Yes	No
		No	No	Yes	No
		No	No	Yes	Yes <sup>2</sup>
		No	No	Yes	Yes
		No	No	Yes	Yes
		No	No	Yes	Yes <sup>2</sup>
		No	No	Yes	No

<sup>1</sup> M 3377: Longlife oil upon special customer request for shortened standstill times of the diesel particulate filter and extended oil-change intervals – not permissible for vehicles with maintenance and FullService contracts.

<sup>2</sup> M 3977 not permissible for TG2 vehicle types (S, X or W at the 6th character of the vehicle identification number) and heavy-duty semitrailer tractors (TG3 vehicle types 86K, 87K).

## Further requirements for engine oils

### Low-temperature limits



### Engine oil additives



#### WARNING

#### Danger of engine damage

Engine oil additives can lead to engine damage.

Therefore:

- Do not use engine oil additives.

MAN Truck & Bus SE does not accept warranty claims for damage resulting from engine oil additives.

### Mixing engine oils

Engine oils from different manufacturers, but in accordance with the same specifications, can be mixed.

Mixing oils of different specifications is not permissible.

Exception up to and including emission standard Euro 5 and EEV:

- M 3377 and M 3277 may be mixed.

Exception from Euro 6d emission standard:

- M 3977 and M 3677 may be mixed

When mixing various specifications (e.g. MAN 3977 and M 3677), the shortest oil-change interval applies.

### Shortened engine oil-change intervals depending on the sulphur content in the diesel fuel

Engine oil-change intervals may be reduced depending on the sulphur content in the diesel fuel.

Information on shortened oil-change intervals can be found in the chapter "Maintenance intervals" (see "General information about maintenance intervals", Page 53).

## Service products

Oil for drive unit (electric)

### OIL FOR DRIVE UNIT (ELECTRIC)

eTGS, eTGX

Drive unit (electric)	Oil specification acc. to MAN company standard
Drive unit	M 3703

**AIR COMPRESSOR OIL (FOR ELECTRIC AIR COMPRESSOR)****eTGS, eTGX**

Electric air compressor	Oil specification
Electric air compressor	Chevron Cetus PAO-46

## COOLANTS

### MAN Genuine anti-corrosion and anti-freeze liquid

The MAN Genuine anti-corrosion and antifreeze agent offers protection against corrosion and cavitation at the same time as providing anti-freeze protection to -37 °C.

Pipe-constricting deposits or gas bubbles can result in extreme pressure and temperature peaks that can permanently damage the system. MAN genuine corrosion protection and anti-freeze liquid is optimally tuned to the cooling systems and their seal materials and coatings, and therefore provides maximum protection, optimum function and cost advantages.

**Where available, use MAN Genuine anti-corrosion and anti-freeze liquid.**



## Anti-freeze and anti-corrosion agent

Use and properties of anti-freeze and anti-corrosion agent in accordance with Company standard MAN 324	MAN 324 type Si-OAT	MAN 324 type Si-OAT plus	MAN 324 type NF
Colour	Pink	Pink	Not prescribed
Application	recommended for all emission standards and engines with PriTarder, Obligatory as of Euro 6	possible for all emission standards and engines with PriTarder	up to and including Euro 5, EEV and engines with PriTarder
Utilisation forbidden	—	Prohibited for D30 diesel engine	From Euro 6
No mixing	with types SNF, N-Arctic and N	with types SNF, N-Arctic and N	With types SNF and N-Arctic
Coolant hose	EPDM hoses (black) in accordance with MAN 334 Type 5 (up to 2.5 bar relative pressure) and Type 8 (up to 3.5 bar relative pressure) recommended		
Standard mixing ratio antifreeze /water	50% by vol. antifreeze/ 50% by vol. water	50% by vol. antifreeze/ 50% by vol. water	50% by vol. antifreeze/ 50% by vol. water
Antifreeze	Below -37 °C	Below -37 °C	Below -37 °C
Mixing ratio for antifreeze/water at low temperatures (cold climate package):	60% by vol. antifreeze/ 40% by vol. water (if temperatures remain higher than -37 °C, change to standard mixing ratio)	60% by vol. antifreeze/ 40% by vol. water (if temperatures remain higher than -37 °C, change to standard mixing ratio)	60% by vol. antifreeze/ 40% by vol. water (if temperatures remain higher than -37 °C, change to standard mixing ratio)
Antifreeze	Below -50 °C	Below -50 °C	Below -50 °C

## Service products

### Coolants

Use and properties of anti-freeze and anti-corrosion agent in accordance with Company standard MAN 324	MAN 324 type SNF	MAN 324 type N-Arctic
Colour	Not prescribed	Not prescribed
Application	up to and including Euro 4	up to and including Euro 4
Utilisation forbidden	as of Euro 5, EEV and engines with PriTarder	as of Euro 5, EEV and engines with PriTarder
No mixing	Mixing with other types not permissible	Mixing with other types not permissible
Permissible coolant hoses	Only EPDM hoses (black) No silicon hoses (blue)	Without restriction
Standard mixing ratio antifreeze/water	40% by vol. antifreeze/ 60% by vol. water	50% by vol. antifreeze/ 50% by vol. water
Antifreeze	Below -27 °C	Below -37 °C
Mixing ratio for antifreeze/water at low temperatures (cold climate package):	—	65% by vol. antifreeze/ 35% by vol. water (if temperatures remain higher than -37 °C, change to standard mixing ratio)
Antifreeze	—	Below -65 °C



#### WARNING

#### Danger of engine damage

The ability of the coolant to protect against corrosion may decrease over the course of the service life, which can lead to engine damage.

Therefore:

- Replace coolant when it turns brown or becomes cloudy.

## Anti-corrosion agent without anti-freeze according to company standard MAN 248

If the use of anti-freeze is not necessary for certain utilisation cases, anti-corrosion agents according to company standard MAN 248 are to be used.

Use of anti-corrosion agents without anti-freeze is not permissible in Euro 5, EEV, Euro 6 engines, and in engines with PriTarder.

Do not mix anti-freeze and anti-corrosion agent according to company standard MAN 248 with anti-freeze and anti-corrosion agent according to company standard MAN 324.



### Note

Further information is available from the MAN service outlets.

## Service products

### Coolants

#### Water quality

##### Analysis values of water

Appearance	Colourless, clear, free from contamination
Total hardness	German hardness: maximum 20 °dH French hardness: maximum 35.6 °fH British hardness: maximum 25 °e
Chlorides	maximum 100 mg/l
Sulphates	maximum 150 mg/l
pH value at 20 °C	6.5 to 8.5

If tap water with these values is not available, use fully desalinated, distilled or condensed water.

#### Changing coolant

Information about the intervals specified for changing the coolant can be found in the chapter "Maintenance intervals" (see "Cooling system", Page 78).

#### Disposing of coolant



##### Note

Treat undiluted anti-freeze and anti-corrosion agents as hazardous waste.

Follow the instructions issued by the relevant local authority when disposing of used coolants (mixture of anti-freeze or anti-corrosion agent with mains water).

There are disposal companies that specialise in the recycling of coolants containing anti-freeze agents and anti-freeze concentrates. If you decide to use these companies, you must collect the product groups separately and not mix them with different types of service products (oils, solvents, fuels).

## GEARBOX OILS

### Gearbox, retarder and axle oils

#### Oil type designation and application

After the MAN company standard is the oil type designation which is generally composed of a letter and a number and provide the user with information about a suitable unit, oil quality and performance level of the oil.

Within an oil type, the lowest number (e. g. Z2) always signifies the lowest oil-change interval and oil performance level, while the highest number (e. g. Z5) signifies the highest oil performance level.

Currently, there are the following oil types:

Oil specification acc. to MAN company std.	Oil type	Application
MAN 339	Z2, Z3, Z4, Z5	Automatic gearbox oils for hydraulic Ecomat gearboxes, retarders and converters
	Z21	Automatic gearbox oils for MAN PowerMatic hydraulic gearbox
MAN 341	Z2, Z4, Z5	High-pressure gearbox oils for manual gearboxes Ecosplit, Ecomid, Ecolite and automated manual gearboxes MAN TipMatic AS/TX/TC, MAN TipMatic Mid/Lite
	Z4, Z5	High-pressure gearbox oils for engine-dependent power take-off (manufactured by OMSI)
	GA1, GA2	High-pressure gearbox oils for MAN TipMatic 14 GRS(O) 905
	GB	High-pressure gearbox oils for MAN TipMatic 14
	VR	High-pressure gearbox oils for Voith retarder VR 120-3
MAN 342	M2, M3	Highest-pressure gearbox oils for axles and transfer cases; mineral base oil
	S1, S2	Highest-pressure gearbox oils for axles and transfer cases; synthetic base oil

Further information about oil specifications and oil-change intervals for gearboxes, transfer cases and axles can be found in the chapter "Maintenance intervals" (see "General information about maintenance intervals", Page 53), (see "Gearbox", Page 79), (see "Transfer case", Page 91), (see "Axles", Page 94).

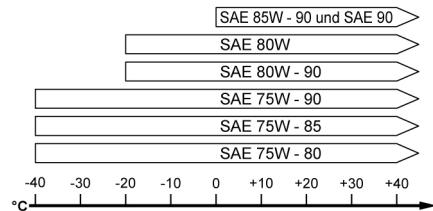
## Service products

Further requirements on gearbox, retarder and axle oils

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### Further requirements on gearbox, retarder and axle oils

#### Low-temperature limits



#### Miscibility

Oils that correspond to the same specifications can be mixed (for example, MAN 342 type M3 and MAN 342 type S1). When mixing various oil types (e.g. MAN 342 type M3 and MAN 342 type S1), the shortest oil-change interval applies.

It is not permitted to mix oils of different specifications (for example, MAN 342 and MAN 341).

## **HYDRAULIC OILS**

### **Steering system**

Steering system	Oil specification acc. to MAN company standard
All steering systems	MAN 339 L1

## Service products

### Clutch

#### Clutch

Clutch unit	Ambient temperature (°C)	Specification
Shift clutch and hydraulic gearshift system (TGA)	-35 to +75	Hydraulic oil M 3289
Clutch actuator for MAN TipMatic 14	—	Brake fluid DOT 4 FMVSS 116, SAE J 1703



#### WARNING

##### Risk of damage to the clutch

Mixing or refilling with brake fluids causes significant damage to seals and hoses, which can lead to clutch unit failure.

Therefore:

- Hydraulic oil as per MAN company standard M 3289 , do not mix hydraulic oils with brake fluid.

## Hydrostatic fan drive, semitrailer hydraulics

### TGX Euro 5 and Euro 6 heavy-duty semitrailer tractors

Hydrostatic fan drive, semitrailer hydraulics	Ambient temperature (°C)	Oil specification
Hydrostatic fan drive, Semitrailer hydraulics	-20 to +80	ISO VG 32 in accordance with DIN 51524-3 (HVLP), ISO 6743-4 (HV)
	-15 to +70	ISO VG 32 in accordance with DIN 51524-2 (HLP), ISO 6743-4 (HM)

## Service products

### Cab tilt mechanism

#### Cab tilt mechanism

Cab tilt mechanisms	Ambient temperature (°C)	Oil specification
Mechanical cab tilt mechanism	-25 to +80	BP Energol HLP HM 15 Gulf Harmony HVI Plus 15 Total Elfomatic G2
Electric cab tilt mechanism	-30 to +80	Chevron Rando HDZ 15 Mobil Univis HVI 26 Shell Tellus S2 V15
	-40 to +80	Chevron Hydraulic Oil 5606A Shell Aeroshell Fluid 41

## **MAN HydroDrive**

TGS, TGX

<b>MAN HydroDrive</b>	<b>Oil specification</b>
MAN HydroDrive, hydraulic system	ISO VG 46 in accordance with DIN 51524-3 (HVLP), ISO 6743-4 (HV) ISO VG 46 in accordance with DIN 51524-2 (HLP), ISO 6743-4 (HM)
MAN HydroDrive, PTO	MAN 341 Z5

## Service products

### Other hydraulic systems

#### Other hydraulic systems

**Tipper hydraulics (not for heavy-duty semitrailer tractors), refuse vehicle hydraulics, crane, cable winch**

Hydraulic systems	Ambient temperature (°C)	Oil specification	Alternative oil specification
Tipper hydraulics, refuse vehicle hydraulics	-10 to +80	MAN 339 L1	ATF Dexron II ATF Dexron III
Crane, winch (same oil circuit)	-15 to +80	Hydraulic oil HLP22 in accordance with DIN 51524	—

**WARNING**



**Risk of damage to the hydraulic system**

When using the hydraulic system below the above-mentioned ambient temperature, there is a risk that parts of it may be damaged.

Therefore:

- Before setting off, allow the hydraulic system to warm up/operate at idling speed.

## **SILO COMPRESSOR (MANUFACTURED BY GHH)**

### **MAN Individual**

<b>Silo compressor</b>	<b>Ambient temperature (°C)</b>	<b>Oil specification</b>
CS580 Light, CS750 Light, CS700 (IC), CG 600 (IC), CS1200 Light, CS1200 (IC), CS1050 (IC)	—	Silol FG, Silol
	-20 to +25	M 3277

## Service products

Refrigerants and refrigerator oils

# REFRIGERANTS AND REFRIGERATOR OILS

## Refrigerant

Air-conditioning system	Specification
Auxiliary air-conditioning system, air-conditioning system	R134a

## Refrigerator oils

Refrigerant compressor	Oil specification
Mahle	PAG-Oil SP-A2
Sanden SD7H15	Sanden SP 10 PAG oil
Sanden SHS-15L3152	PAG-Oil SP-A2
TCCI	PAG 46



### WARNING

#### Risk of damage to the air-conditioning system

Mixing refrigerator oils or using additives leads to damage to the refrigerant compressor and the air-conditioning system.

Therefore:

- Do not mix refrigerator oils with each other.

- No additives should be mixed into the refrigerator oil or the refrigerant.
- Do not use additives such as fluorescing agents or contrast agents for leakage checks or leak tests.

## SOLID LUBRICANTS

### Periodic lubrication: Use up to 130 °C

Component	Specification	Alternative specification
All nipple-type and loose-type greasing points such as: Linkages and cables, engine control, clutch and gearshift, tipper pins, spare wheel hoist, locking mechanism for cab tilt mechanism, brake camshaft bearings on the rear axle, linkage adjuster, spring pins, ball joints, bolts of the axle load compensation oscillation, etc.	MAN 283 Li-P 2	Multi-purpose grease (lithium-12-hydroxystearate type) + EP additives, NLGI Class 2, drop point at least 180 °C without solid lubricants (e.g. graphite, MoS <sub>2</sub> )
Ringfeder trailer coupling: Contact surface of the drawbar eye on the coupling jaw and on the coupling pin	Creep oil with corrosion protection (e.g. WD-40)	—
Rockinger trailer coupling: Contact surface of the drawbar eye on the coupling jaw and on the coupling pin	Castrol Olista Longtime 3 EP	—
Ringfeder and Rockinger trailer coupling: Grease nipple	MAN 283 Li-P 2	—
Lubrication of vehicle door locks, outside handle (locking cylinder grease)	Fuchs Renocal FN 745/94 Castrol Optitemp TT1 Spray	Water-resistant lubricating grease, NLGI Class 1/2, drop point at least 120 °C
Grease nipple on the slide and on the propshaft joints	Fuchs Renolit LX-PEP 1/2 Shell Retinax LX2 Shell Gadus S3 V220C 2 Fuchs Service Free 2 GWB Chevron Ultra-Duty Greases EP	—

## Service products

### Solid lubricants

#### Periodic lubrication: Use up

to 150 °C

Component	Specification	Alternative specification
Gearbox input shaft keyway toothing (repair) Drive toothing of the hydraulic/tandem pump (Euro 6 heavy-duty semitrailer tractor)	Castrol Olista Longtime 3EP	—
Twin propshafts, eccentric shaft bearing on fan tensioning roller <b>Long-life lubrication:</b> Mount for brake camshaft bearings on the rear axle, brake shoe pins, steering knuckle	MAN 284 Li-H 2	Lithium complex grease with mineral oil, NLGI Class 2, drop point at least 230 °C
Low-maintenance brake camshaft	Fuchs Renolit LX-NHU 2 in accordance with MAN 284 Li-H 2	—
Fifth-wheel coupling: Fifth-wheel pick-up plate, locking hook, sliding device on the tractor vehicle if necessary, plate and Kingpin on the semitrailer (if without central lubrication system) Sliding device on the fifth-wheel coupling (heavy-duty semitrailer tractor, E types)	MAN 284 Li-H 2	Multi-purpose grease (lithium-12-hydroxystearate type) + EP additives + MoS <sub>2</sub> , NLGI class 2, drop point at least 180°C

#### Periodic lubrication: Use

from -50 °C

Specification	Alternative specification
Fuchs Renolit W2	Lithium complex grease with synthetic base oil, NLGI Class 2, drop point at least 230 °C

**Lifetime lubrication: Use up  
to 200 °C**

Component	Specification	Alternative specification
Brake shoe pins, brake shoe rollers, nozzle holders (pressure screw contact point), exhaust system (mounting bolts)	TC high-temperature lubricant 13-047	Heat-resistant paste with Cu solid lubricant
Constant-velocity shafts	Castrol molub-alloy paste MP 3	—

**Lifetime lubrication**

Component	Specification
Steering knuckle bearing	Fuchs Renolit LX-OTP 2

**Integrated lubrication system for  
fifth-wheel couplings**

Fifth-wheel coupling	Specification
Jost: JSK 34, 36, 37, 38, 42, SL	Jost JHS 2020 B
Jost sliding device: EV HD-800	
SAF-HOLLAND: SK-S 36-20, SK-HD 38.36	HOLLAND RECOLUBE BIOPOWER SKX 023

## Service products

### Corrosion protection

## CORROSION PROTECTION

Component	Specification acc. to <b>MAN company standard</b>
Destination indicators, (interior), painted outside surfaces	M 3082-A paint-protecting wax
<b>Cab cavities</b>	
Initial treatment	M 3082-B1 cavity wax
Subsequent treatment	M 3082-B3 cavity wax
Wheel arches, underbody, cab underside, front panel	M 3082- C underbody wax or M 3082-Z two-coat wax

## **BATTERY, WIPER SYSTEM, TYRES AND RIMS**

<b>Battery</b>	<b>Specification</b>
Acid density with fully-charged battery	1.28 g/cm <sup>3</sup> at 20 °C
Battery fluid	Distilled water
Terminal grease	Technical Vaseline S-743 or TL 9150-0042

## **Wiper and headlight cleaning system**

Only use windscreen washer fluid with a suitable cleaning additive.

Do not add detergent to the windscreen washer fluid because it

- has hardly any effect against diesel soot and contamination by insects,
- is only effective at temperatures that are not normally attained in the windscreen washer water and
- can cause damage to paintwork, plastic and rubber parts under certain circumstances.

At low ambient temperatures, use windscreen washer fluid with antifreeze and observe the manufacturer's temperature information.

When using concentrates, observe the information about the mixing ratio with tap water.

<b>Tyres and rims</b>	<b>Specification</b>
Assembly product, slip additive	M 3224

## **Service products**

Battery, wiper system, tyres and rims

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## GENERAL INFORMATION ABOUT MAINTENANCE INTERVALS

### Vehicle-specific units

Information about the units installed in the vehicle can be viewed in the MAN Service Portal after entering the VIN.

Each unit in a vehicle has a model plate. This can also be used to identify the unit.

### Specifications

Information on the service products recommended for a specific unit by MAN Truck & Bus SE can be found in the column titled "Oil specification in accordance with MAN company standard" in the following tables.

If several specifications are permissible, the **respective specification written in bold** denotes the initial fill.

The assignment of engine oil to the emission standard, exhaust system and the sulphur content in the diesel fuel can be found in the chapter "Service products" (see "Engine oils", Page 25).

### Oil-change and maintenance intervals

The maintenance work is carried out after a specified time interval or mileage, depending on which event occurs first.

The listed values are maximum values. They depend on the quality of the oil used, on the type of unit installed and on the vehicle application.

It is also relevant whether the maintenance interval calculator is switched on or switched off.

In the case of vehicles which have their maintenance interval calculator switched on, the oil-change interval depends on the operating conditions. The indicated maximum mileage may be reduced. The relevant indication is the message in the driver's display that a maintenance service is necessary.

The currently applicable maintenance checklists must be used to carry out the maintenance work.



#### WARNING

#### Danger of engine damage

If the maintenance intervals are exceeded, particularly when changing the engine oil, there is a risk of (sudden) engine damage, whereby fire cannot be ruled out as an extreme consequence of engine damage.

Therefore:

- It is essential that you comply with the maintenance intervals prescribed by MAN Truck & Bus SE.



#### Note

In vehicles from emission standard Euro 6c, it is not permitted to deactivate the maintenance interval calculator (maintenance system in vehicle).

### Shortened oil-change intervals for diesel engines

#### High sulphur content in diesel fuel

The oil-change intervals are shortened when operating the vehicle with a high sulphur content in the diesel fuel.

Information on the permissible sulphur content in the diesel fuel can be found in the chapter "Service products" (see "Mineral diesel fuel", Page 14)

Information on shortened oil-change intervals can be found in this chapter.

#### Diesel engines approved for FAME fuel and diesel fuel

The oil-change intervals are shortened for diesel engines that are approved for FAME fuel and diesel fuel.

Information on the conditions for the use of FAME fuel is contained in the chapter "Service products" (see "FAME fuel (biodiesel)", Page 16).

Information on shortened oil-change intervals can be found in this chapter.

## Maintenance intervals

### General information about maintenance intervals

#### Low temperatures

Oil-change intervals are shortened when operating the vehicle at low temperatures. Operation at low temperatures occurs when the ambient temperature is below -20 °C for at least 3 months of the year.

##### Calculation:

The shortened oil-change intervals are determined based on the correction factor from the following table:

Ambient temperature for at least 3 months per year (°C)	Correction factor oil-change interval
less than -20	0.7

The oil-change interval is limited to 12 months.

##### Example:

D26 engine, Euro 2

Sulphur content in diesel fuel: 51 to 1,000

Oil specification M 3277

Maintenance interval calculator off, medium use

Oil-change interval: 35,000 km

Operation at low temperatures: Correction factor 0.7

Results in a reduced oil-change interval of 24,500 km.

#### Switched off maintenance interval calculator

The oil-change intervals are reduced when the maintenance interval calculator is switched

off. The application (light, medium, heavy) is decisive for adjusting oil-change intervals.

A fuel consumption is specified for each application and every engine type.

Engine	Usage	Fuel consumption (litres per 100 km)
D0834	light	Up to 15
	medium	16 to 25
	heavy	over 25
D0836	light	Up to 23
	medium	24 to 33
	heavy	Over 33
D20, D26, D28, D38	light	Up to 30
	medium	31 to 50
	heavy	over 50

These adjusted mileages are listed in the column "Maintenance interval calculator off" in the following tables.

- if the average monthly temperature in more than 2 months per year is higher than 25°C
- or if temperatures higher than 40°C occur on more than 7 days per year

#### Heavy-duty operation

Heavy duty operation exists for the following engines if the fuel consumption exceeds the specified values:

Engine	Fuel consumption (litres per 100 km)
D0834	25
D0836	33
D20, D26, D28, D38	50

The shortened oil-change intervals for the manual gearbox apply in case of operation at high temperatures and/or in heavy-duty operation.

The gearbox oil type MAN 341 Z2 is not permissible for operation at high temperatures and in heavy-duty operation.

Information on shortened oil-change intervals can be found in this chapter.

## Shortened oil-change intervals for gearbox, transfer case, axles, MAN HydroDrive

#### High temperatures

The oil-change intervals for gearboxes, transfer case gearboxes, axles and the MAN HydroDrive are shortened when operating the vehicle at high temperatures. The following is classed as operation at high temperatures:

## D26, D38 engine oil initial fill

Engines D26 Euro 6d and D38 Euro 6d of the TGS and TGX version (old vehicle types S, X, W) are initially filled with engine oil in accordance with M 3677.

Engines D26 Euro 6d/e and D38 Euro 6d/e of the TGS and TGX series (new vehicle types E, F, J, K) may be initially filled with engine oil in accordance with M 3677 or M 3977. Information on which oil the engine is initially filled with can be found on page 5 of the maintenance record.

<b>Diesel engine Euro 6d/e</b>	<b>Vehicle types</b>	<b>Oil specification in accordance with MAN company standard, initial fill</b>
D2676LF78/79/80/81/82/83/84/85/86/AB/AE	S, W, X	M 3677
D2676LF78/79/80/84/85/86/AB/AE/AF/AI/AJ/AK/AL/AP/AQ/AS/AX/AY/AZ/BA/BB/BC/BD/BE/BI	E, F, J, K	M 3677, M 3977 <sup>1</sup>
D2676LF81/82/83/AM/AN/AO/BF/BG/BH	E, F, J, K, S, W, X	M 3677
D3876LF10/11/12	X	M 3677
D3876LF10/11/12/16/17/18	E, F, J, K	M 3677, M 3977 <sup>1</sup>

<sup>1</sup> M 3977 not permissible for TG2 vehicle types (S, X or W at the 6th character of the vehicle identification number) and heavy-duty semitrailer tractors (TG3 vehicle types 86K, 87K).

## Maintenance intervals

### D0834LFL engine

## DIESEL ENGINES APPROVED FOR DIESEL FUEL

### D0834LFL engine

#### Note

Approvals for paraffinic diesel fuel in compliance with EN 15940 are available for D08 engines without EGR, with SCR in compliance with Euro 4 and Euro 5.

#### Oil specifications and oil-change intervals

Diesel engine, approved for diesel fuel	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval calculator on (km)	Maximum mileage			(months)
				light (km)	medium (km)	heavy (km)	
Euro 3	Up to 50	<b>M 3277</b> , M 3377, M 3677	80,000	60,000	42,000	24,000	12
	51 to 1,000	<b>M 3277</b> , M 3377	—	30,000	21,000	12,000	
	Over 1,000	<b>M 3277</b> , M 3377	—	18,000	12,600	7,200	
Euro 4 with EGR, with PM-KAT	Up to 50	<b>M 3677</b>	80,000	60,000	42,000	24,000	
Euro 4, Euro 5 D0834LFL83/84/85/86/87/88 /89/90/91/92/93/94, without EGR, with SCR	Up to 50	<b>M 3277</b> , M 3377, M 3677	80,000	60,000	42,000	24,000	18
	51 to 1,000	<b>M 3277</b> , M 3377	—	30,000	21,000	12,000	
	1,001 to 2,000	<b>M 3277</b> , M 3377	—	18,000	12,600	7,200	
Euro 5 with EGR, with DOC	Up to 50	<b>M 3277</b> , M 3377, M 3677	80,000	60,000	42,000	24,000	12
EEV with EGR, with PM-KAT	Up to 50	<b>M 3677</b>	80,000	60,000	42,000	24,000	

**Maintenance intervals**  
D0834LFL engine

Diesel engine, approved for diesel fuel in accordance with EN 590	Sulphur con- tent in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
				Maintenance inter- val calculator off Usage light (km)	medium (km)	heavy (km)	
Euro 6b D0834LFL66/67/68/75/76, with EGR, with SCR + CRT	Up to 10	<b>M 3677</b>	60,000	45,000	32,000	18,000	12
		M 3377 <sup>1</sup>	80,000	60,000	42,000	24,000	

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940	Sulphur con- tent in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval calculator on (km)	Maximum mileage		(months)
				Maintenance interval calculator on (km)	(months)	
Euro 6c D0834LFLAA/AB/AC/AD/AE, with EGR, with SCR + CRT	Up to 10	<b>M 3677</b>	60,000	80,000	12	12
		M 3377 <sup>1</sup>	80,000			
D0834LFL77/78/79/80/81/82, without EGR, with SCR + CRT	Up to 10	<b>M 3677</b>	80,000		18	
Euro 6d/e D0834LFLAF/AG/AH/AI/AJ/AK /AQ/AR/AS/AT/AU, without EGR, with SCR + CRT	Up to 10	<b>M 3677</b>	80,000		18	

<sup>1</sup> M 3377: Longlife oil upon special customer request for shortened standstill times of the diesel particulate filter and extended oil-change intervals – not permissible for vehicles with maintenance and FullService contracts.

## Maintenance intervals

### D0836LFL engine

#### D0836LFL engine

##### Note

Approvals for paraffinic diesel fuel in compliance with EN 15940 are available for D08 engines without EGR, with SCR in compliance with Euro 4 and Euro 5.

#### Oil specifications and oil-change intervals

Diesel engine, approved for diesel fuel	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval calculator on (km)	Maximum mileage			(months)
				Maintenance interval calculator off Usage	light (km)	medium (km)	heavy (km)
Euro 3	Up to 50	<b>M 3277, M 3377, M 3677</b>	80,000	60,000	42,000	24,000	12
	51 to 1,000	<b>M 3277, M 3377</b>	—	30,000	21,000	12,000	
	Over 1,000	<b>M 3277, M 3377</b>	—	18,000	12,600	7,200	
Euro 4	with EGR, with PM-KAT	Up to 50	<b>M 3677</b>	80,000	60,000	42,000	24,000
Euro 4, Euro 5 /92/93/94/95/96/97 without EGR, with SCR	Up to 50	<b>M 3277, M 3377, M 3677</b>	80,000	60,000	42,000	24,000	18
	51 to 1,000	<b>M 3277, M 3377</b>	—	30,000	21,000	12,000	
	1,001 to 2,000	<b>M 3277, M 3377</b>	—	18,000	12,600	7,200	
Euro 5	with EGR, with DOC	Up to 50	<b>M 3277, M 3377, M 3677</b>	80,000	60,000	42,000	24,000
EEV	with EGR, with PM-KAT	Up to 50	<b>M 3677</b>	80,000	60,000	42,000	24,000

**Maintenance intervals**  
D0836LFL engine

Diesel engine, approved for diesel fuel in accordance with EN 590	Sulphur con- tent in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
				Maintenance inter- val calculator off Usage	light (km)	medium (km)	
Euro 6b D0836LFL66/67/68/75/76/77 with EGR, with SCR + CRT	Up to 10	<b>M 3677</b>	60,000	45,000	32,000	18,000	12
		M 3377 <sup>1</sup>	80,000	60,000	42,000	24,000	

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940	Sulphur con- tent in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval calculator on (km)	Maximum mileage		(months)
				Maintenance interval calculator on	(months)	
Euro 6c D0836LFLAA/AB/AC/AD/AE/AF with EGR, with SCR + CRT	Up to 10	<b>M 3677</b>	60,000	80,000	12	12
		M 3377 <sup>1</sup>	80,000			
D0836LFL79/80/81/83/84/85 without EGR, with SCR + CRT	Up to 10	<b>M 3677</b>	80,000		18	
Euro 6d/e D0836LFLAN/AO/AP/AQ/AR /AS/BI/BJ/BK/BL/BM/BN without EGR, with SCR + CRT	Up to 10	<b>M 3677</b>	80,000		18	

<sup>1</sup> M 3377: Longlife oil upon special customer request for shortened standstill times of the diesel particulate filter and extended oil-change intervals – not permissible for vehicles with maintenance and FullService contracts.

## Maintenance intervals

Engine D1556LF

### Engine D1556LF

#### Oil specifications and oil-change intervals

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maximum mileage Maintenance interval calculator on	
			(km)	(months)
D1556LF07/08/09/10/11/12/17 Euro 6d/e /18/19/20/21/22 without EGR, with SCR + CRT	Up to 10	M 3677	120,000	18

## Engine D2066LF

### Note

Approvals for paraffinic diesel fuel in accordance with EN 15940 are available for D20 engines in accordance with emission standards Euro 2 to Euro 5.

### Oil specifications and oil-change intervals

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940		Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
					Maintenance interval cal- culator off Usage	light (km)	medium (km)	
Euro 2	—	Up to 50	<b>M 3277</b> , M 3377	120,000	100,000	70,000	40,000	12
		51 to 1,000	<b>M 3277</b> , M 3377	—	50,000	35,000	20,000	
		Over 1,000	<b>M 3277</b> , M 3377	—	30,000	21,000	12,000	
Euro 3	—	Up to 50	<b>M 3277</b> , M 3377, M 3677	120,000	100,000	70,000	40,000	12
		51 to 1,000	<b>M 3277</b> , M 3377	—	50,000	35,000	20,000	
		Over 1,000	<b>M 3277</b> , M 3377	—	30,000	21,000	12,000	
Euro 4	with EGR, with PM-KAT	without OBD with OBD	Up to 50	<b>M 3677</b>	90,000	70,000	50,000	30,000
				<b>M 3677</b>	120,000	100,000	70,000	40,000
Euro 4, Euro 5	without EGR, with SCR		Up to 50	<b>M 3277</b> , M 3377, M 3677	120,000	100,000	70,000	40,000
				<b>M 3277</b> , M 3377	—	50,000	35,000	20,000
				<b>M 3277</b> , M 3377	—	30,000	21,000	12,000

## Maintenance intervals

Engine D2066LF

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940		Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
					Maintenance interval calculator off Usage	light (km)	medium (km)	
Euro 5	with EGR, with DOC	Up to 50	M 3277, M 3377	120,000	100,000	70,000	40,000	12
	with EGR, with PM-KAT	Up to 50	M 3677	120,000	100,000	70,000	40,000	
	with EGR, with CRT	Up to 10		120,000	100,000	70,000	40,000	
EEV	without EGR, with SCR	Up to 50	M 3277, M 3377, M 3677	120,000	100,000	70,000	40,000	12
		51 to 1,000	M 3277, M 3377	—	50,000	35,000	20,000	
		Over 1,000	M 3277, M 3377	—	30,000	21,000	12,000	

Diesel engine, approved for diesel fuel in accordance with EN 590		Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
					Maintenance interval calculator off Usage	light (km)	medium (km)	
Euro 6a	D2066LF80/81/83/84 with EGR, with SCR + CRT	Up to 10	M 3677	100,000	80,000	55,000	30,000	12
			M 3377 <sup>1</sup>	140,000	100,000	70,000	40,000	
Euro 6b	D2066LF61/67/68/76/77/78 with EGR, with SCR + CRT		M 3677	100,000	80,000	55,000	30,000	12
			M 3377 <sup>1</sup>	140,000	100,000	70,000	40,000	

<sup>1</sup> M 3377: Longlife oil upon special customer request for shortened standstill times of the diesel particulate filter and extended oil-change intervals – not permissible for vehicles with maintenance and FullService contracts.

**Maintenance intervals**  
Engine D2066LF

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maximum mileage Maintenance interval calculator on	
			(km)	(months)
Euro 6c D2066LF85/86/92/93 with EGR, with SCR + CRT	Up to 10	<b>M 3677</b>	140,000	18

## Maintenance intervals

Engine D2676LF

### Engine D2676LF

#### Note

Approvals for paraffinic diesel fuel in compliance with EN 15940 are available for D26 engines in accordance with emission standards Euro 2 to Euro 5.

#### Oil specifications and oil-change intervals

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
				Maintenance interval cal- culator off Usage	light (km)	medium (km)	heavy (km)
Euro 2 —	Up to 50	<b>M 3277, M 3377, M 3677</b>	120,000	100,000	70,000	40,000	12
	51 to 1,000	<b>M 3277, M 3377</b>	—	50,000	35,000	20,000	
	Over 1,000	<b>M 3277, M 3377</b>	—	30,000	21,000	12,000	
Euro 3 —	Up to 50	<b>M 3277, M 3377, M 3677</b>	120,000	100,000	70,000	40,000	12
	51 to 1,000	<b>M 3277, M 3377</b>	—	50,000	35,000	20,000	
	Over 1,000	<b>M 3277, M 3377</b>	—	30,000	21,000	12,000	
Euro 4 with EGR, with PM-KAT	Up to 50	<b>M 3677</b>	120,000	100,000	70,000	40,000	
Euro 4, Euro 5 without EGR, with SCR	Up to 50	<b>M 3277, M 3377, M 3677</b>	120,000	100,000	70,000	40,000	
	51 to 1,000	<b>M 3277, M 3377</b>	—	50,000	35,000	20,000	
	Over 1,000	<b>M 3277, M 3377</b>	—	30,000	21,000	12,000	

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940		Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
					Maintenance interval calculator off Usage light (km)	medium (km)	heavy (km)	
Euro 5	with EGR, with DOC	Up to 50	M 3277, M 3377	120,000	100,000	70,000	40,000	12
	with EGR, with PM-KAT	Up to 50	M 3677	120,000	100,000	70,000	40,000	
	with EGR, with CRT	Up to 10		120,000	100,000	70,000	40,000	
	EEV without EGR, with SCR	Up to 50	M 3277, M 3377, M 3677	120,000	100,000	70,000	40,000	
		51 to 1,000	M 3277, M 3377	—	50,000	35,000	20,000	
		Over 1,000	M 3277, M 3377	—	30,000	21,000	12,000	

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940		Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
					Maintenance interval calculator off Usage light (km)	medium (km)	heavy (km)	
Euro 6a	D2676LF45/46/47/48/49/50 with EGR, with SCR + CRT	Up to 10	M 3677	100,000	80,000	55,000	30,000	12
			M 3377 <sup>1</sup>	140,000	100,000	70,000	40,000	

<sup>1</sup> M 3377: Longlife oil upon special customer request for shortened standstill times of the diesel particulate filter and extended oil-change intervals  
– not permissible for vehicles with maintenance and FullService contracts.

## Maintenance intervals

### Engine D2676LF

Diesel engine, approved for diesel fuel in accordance with EN 590	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
				Maintenance interval calculator off Usage	light (km)	medium (km)	
Euro 6b D2676LF25/26/35/36 with EGR, with SCR + CRT	Up to 10	M 3677	100,000	80,000	55,000	30,000	12
		M 3377 <sup>1</sup>	140,000	100,000	70,000	40,000	

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maximum mileage		(months)
			Maintenance interval calculator on (km)	(months)	
Euro 6c D2676LF51/52/53/66/67/68 with EGR, with SCR + CRT	Up to 10	M 3677	140,000		18
Euro 6d/e D2676LF78/79/80/84/85/86/AB /AE/AF/AI/AJ/AK/AL/AP/AQ/AS /AX/AY/AZ/BA/BB/BC/BD/BE/BI with EGR, with SCR + CRT	Up to 10	M 3677, M 3977 <sup>2</sup>	140,000		18

<sup>1</sup> M 3377: Longlife oil upon special customer request for shortened standstill times of the diesel particulate filter and extended oil-change intervals – not permissible for vehicles with maintenance and FullService contracts.

<sup>2</sup> Information about which oil the engine is initially filled with can be found on page 5 of the maintenance record.

M 3977 not permissible for TG2 vehicle types (S, X or W at the 6th character of the vehicle identification number).

**D2868LF engine****Oil specifications and oil-change intervals**

Diesel engine, approved for diesel fuel	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage off Usage			(mont- hs)
				light (km)	medium (km)	heavy (km)	
Euro 5 with SCR, with DOC	Up to 50	<b>M 3277, M 3377, M 3677</b>	120,000	80,000	55,000	30,000	12

## Maintenance intervals

Engines D2866LF, D2876LF

### Engines D2866LF, D2876LF

#### Oil specifications and oil-change intervals

Diesel engine, approved for diesel fuel	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
				Maintenance interval calculator off light (km)	Usage medium (km)	Usage heavy (km)	
Euro 2 —	not limited	<b>M 3277, M 3377</b>	100,000	80,000	55,000	30,000	
with green oil dipstick	Up to 50	<b>M 3277, M 3377, M 3677</b>	100,000	80,000	55,000	30,000	12
	51 to 1,000	<b>M 3277, M 3377</b>	—	40,000	27,500	15,000	
	Over 1,000	<b>M 3277, M 3377</b>	—	24,000	16,500	10,000	
Euro 3 —	Up to 50	<b>M 3277, M 3377, M 3677</b>	75,000	60,000	45,000	25,000	
	51 to 1,000	<b>M 3277, M 3377</b>	—	30,000	22,500	12,500	
	Over 1,000	<b>M 3277, M 3377</b>	—	20,000	15,000	7,500	
with EGR, with PM-KAT with green oil dipstick	Up to 50	M 3677	120,000	100,000	70,000	40,000	
	Up to 50	<b>M 3277, M 3377, M 3677</b>	120,000	100,000	70,000	40,000	
	51 to 1,000	<b>M 3277, M 3377</b>	—	50,000	35,000	20,000	
Euro 4 —	Over 1,000	<b>M 3277, M 3377</b>	—	30,000	21,000	12,000	
	Up to 50	M 3677	90,000	70,000	50,000	30,000	
	Up to 50	<b>M 3277, M 3377, M 3677</b>	90,000	70,000	50,000	30,000	
with SCR with red oil dipstick	51 to 1,000	<b>M 3277, M 3377</b>	—	45,000	25,000	15,000	
	Over 1,000	<b>M 3277, M 3377</b>	—	21,000	15,000	9,000	

## **Engine D3066LF**

### **Oil specifications and oil-change intervals**

<b>Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940</b>		<b>Sulphur content in diesel fuel (ppm)</b>	<b>Oil specification acc. to MAN company standard</b>	<b>Maximum Maintenance interval (km)</b>	<b>mileage calculator on (months)</b>
Euro 6e	D3066LF10/11/12/13/14/15/16 /17/18/19/20/21 with EGR, with SCR + CRT	Up to 10	<b>M 3977</b>	150,000	18
	M 3677		110,000		

## Maintenance intervals

Engine D3876LF

### Engine D3876LF

#### Oil specifications and oil-change intervals

Diesel engine, approved for diesel fuel in accordance with EN 590	Sulphur con- tent in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval cal- culator on (km)	Maximum mileage			(mont- hs)
				light (km)	medium (km)	heavy (km)	
Euro 6b D3876LF01/02/03/04/05/06 with EGR, with SCR + CRT	Up to 10	M 3677	100,000	80,000	55,000	30,000	12
		M 3377 <sup>1</sup>	140,000	100,000	70,000	40,000	

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Maintenance interval calculator on (km)	Maximum mileage	
					(months)
Euro 6c D3876LF07/08/09 with EGR, with SCR + CRT	Up to 10	M 3677	100,000		18
Euro 6d/e D3876LF10/11/12/16/17/18 with EGR, with SCR + CRT	Up to 10	M 3677, M 3977 <sup>2</sup>	140,000		18

<sup>1</sup> M 3377: Longlife oil upon special customer request for shortened standstill times of the diesel particulate filter and extended oil-change intervals – not permissible for vehicles with maintenance and FullService contracts.

<sup>2</sup> Information about which oil the engine is initially filled with can be found on page 5 of the maintenance record.

M 3977 not permissible for vehicle type X.

**D3876 engine for heavy-duty semitrailer  
tractor**

**Oil specifications and oil-change intervals**

Diesel engine, approved for diesel fuel in accordance with EN 590	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	Main- tenance inter- val calcu- lator on (km)	Maximum mileage			(months)	(h)
				Mainte- nance interval calculator off Usage	medium (km)	heavy (km)		
Euro 6b D3876LF01/02/03/04/05/06 with EGR, with SCR + CRT	Up to 10	M 3677	100,000	55,000	30,000	12	600	
		M 3377 <sup>1</sup>	140,000	70,000	40,000			

Diesel engine, approved for diesel fuels in compliance with EN 590 and EN 15940	Sulphur content in diesel fuel (ppm)	Oil specification acc. to MAN company standard	(km)	Maximum mileage	
				Mainte- nance interval calculator on	(months)
Euro 6c D3876LF07/08/09 with EGR, with SCR + CRT	Up to 10	M 3677	100,000		18
Euro 6d/e D3876LF10/11/12/16/17/18 with EGR, with SCR + CRT	Up to 10	M 3677	140,000		18

<sup>1</sup> M 3377: Longlife oil upon special customer request for shortened standstill times of the diesel particulate filter and extended oil-change intervals – not permissible for vehicles with maintenance and FullService contracts.

## Maintenance intervals

Engines D0834LFL, D0836LFL

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### DIESEL ENGINES OPERATED WITH FAME FUEL

#### Engines D0834LFL, D0836LFL

##### Oil specifications and oil-change intervals

Diesel engine, approved for fuels according to EN 14214 and EN 590		Oil specification acc. to MAN company standard	Maximum mileage Maintenance interval calculator on (km)	mileage (months)
Euro 6e	D0834LFLAV/AW without EGR, with SCR + CRT	<b>M 3677</b>	30,000	12
Euro 6e	D0836LFLBO/BP without EGR, with SCR + CRT	<b>M 3677</b>	30,000	12

**Engines D2066LF, D2676LF,  
D2866LF, D2876LF**

**Oil specifications and oil-change intervals**

<b>Diesel engine, approved for FAME fuel</b>	<b>Annual mileage (km)</b>	<b>Oil specification acc. to MAN company standard</b>	<b>Maximum mileage Maintenance inter- val calculator off</b>	
			<b>(km)</b>	<b>(months)</b>
Euro 2	—	Up to 45,000	<b>M 3277, M 3377</b>	20,000
		Over 45,000		30,000
Euro 3	—	Up to 45,000	<b>M 3277, M 3377</b>	20,000
		Over 45,000		30,000
Euro 4	with EGR, with PM-KAT	Up to 45,000	<b>M 3677</b>	20,000
		Over 45,000		30,000
	without EGR, with SCR	Up to 45,000	<b>M 3277, M 3377, M 3677</b>	20,000
		Over 45,000		30,000
Euro 5	with EGR, with DOC without EGR, with SCR	Up to 45,000	<b>M 3277, M 3377</b>	20,000
		Over 45,000		30,000

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## Maintenance intervals

Engines D2066LF, D2676LF, D2866LF, D2876LF

Diesel engine, approved for fuels according to EN 14214 and EN 590	Oil specification acc. to MAN company standard	Maximum mileage		
		Maintenance interval cal- culator on (km)	Maintenance inter- val calculator off (km)	(months)
Euro 6a D2676LF54/55/56/57/58 with EGR, with SCR + CRT	M 3677, M 3377	—	30,000	12
Diesel engine, approved for fuels according to EN 14214 and EN 590	Oil specification acc. to MAN company standard	Maximum mileage		
Euro 6c D2676LF63/64/65 with EGR, with SCR, with CRT	M 3677	30,000	12	Maintenance interval calculator on (km)
				(months)
Euro 6d/e D2676LF81/82/83/AM/AN/AO with EGR, with SCR, with CRT	M 3677	30,000	12	
Diesel engine, approved for fuels according to EN 14214, EN 590 and EN 15940	Oil specification acc. to MAN company standard	Maximum mileage		
Euro 6e D2676LFBF/BG/BH with EGR, with SCR, with CRT	M 3677	30,000	12	Maintenance interval calculator on (km)
				(months)

## Engine D3066LF

### Oil specifications and oil-change intervals

Diesel engine, approved for fuels according to EN 14214, EN 590 and EN 15940		Oil specification acc. to MAN company standard	Maximum mileage Maintenance interval calculator on (km) (months)	
Euro 6e	D3066LF23/24 with EGR, with SCR + CRT	M 3977 M 3677	105,000 80,000	9

## Maintenance intervals

Drive unit (electric)

### DRIVE UNIT (ELECTRIC)

#### eTGS, eTGX

##### Oil specifications and oil-change intervals

Drive unit (electric)	Oil specification acc. to MAN company standard	Maximum (km)	mileage (months)
Drive unit	M 3703	200,000	36

## ELECTRIC AIR COMPRESSOR

### eTGS, eTGX

#### Oil specifications and oil-change intervals

Electric air compressor	Oil specification	Maximum mileage (km)	mileage (months)
Electric air compressor	Chevron Cetus PAO 46	—	24

## Maintenance intervals

### Cooling system

## COOLING SYSTEM

### TGL, TGM, TGS, TGX, eTGS, eTGX

#### Specifications and intervals

Corresponding information on the miscibility of coolants can be found in the chapter "Service products" (see "Coolants", Page 32).

Emission standard/ Engine/ Series	Specification in accordance with MAN company standard	Maximum mileage	(months)
		(km)	
up to and including Euro 4	<b>MAN 324 type Si-OAT plus, MAN 324 type Si-OAT,</b>	500,000	48
	MAN 324 type NF, MAN 324 type N-Arctic, MAN 324 type SNF		
Euro 5, EEV	<b>MAN 324 Type Si-OAT plus, MAN 324 Type Si-OAT, MAN 324 Type</b>		
NF			
Euro 6, except D3066LF	<b>MAN 324 type Si-OAT plus, MAN 324 type Si-OAT</b>		
Euro 6, D3066LF	<b>MAN 324 type Si-OAT</b>		
eTGS, eTGX	<b>MAN 324 type Si-OAT</b>		
D2676LF with PriTarder	<b>MAN 324 type Si-OAT plus, MAN 324 type Si-OAT</b>	250,000	36



#### WARNING

#### Danger of engine damage

The ability of the coolant to protect against corrosion may decrease over the course of the service life, which can lead to engine damage.

Therefore:

- Replace coolant when it turns brown or becomes cloudy.

## GEARBOX



### Note

For gearboxes that are initially filled with gearbox oils according to MAN 341 Z5, the oil may only be changed within the first two years of first registration of the vehicle if the upper mileage limit has already been reached.

Only oils in compliance with MAN 341 Z5 may be used when topping up the gearbox oil (retrofit, repair, etc.) within the first two years.

## Maintenance intervals

### Hydraulic gearbox (automatic gearbox)

#### Hydraulic gearbox (automatic gearbox)

TGL, TGM

#### Oil specifications and oil-change intervals

Hydraulic gearbox	Oil specification acc. to MAN company standard	Maximum mileage			Maintenance interval calculator off (km)	(months)
		85 °C (km)	95 °C (km)	105 °C (km)		
<b>Normal use, distribution transport</b> MAN PowerMatic 8AP-900-T, 8AP-1200-T	<b>MAN 339 Z21</b>	360,000	240,000	120,000	120,000	36
<b>Special application, Average speed &lt; 30 km/h</b> MAN PowerMatic 8AP-900-T, 8AP-1200-T	<b>MAN 339 Z21</b>	180,000	120,000	60,000	60,000	36

<sup>1</sup> The oil temperature is determined by the central vehicle manager (CVM) control unit. The maintenance interval calculator calculates the oil-change interval using the determined value.

TGA, TGS, TGX

**Oil specifications and oil-change intervals**

Hydraulic gearbox	Oil specification acc. to MAN company standard	Normal use			Maximum mileage		
		(km)	(months)	(h)	(km)	(months)	(h)
Ecomat	MAN 339 Z4, MAN 339 Z5	150,000	24	2,000	75,000	12	1,500
	MAN 339 Z3	120,000	12	1,500	60,000	12	1,000
	MAN 339 Z2	60,000	12	750	30,000	12	500

**MAN Individual (e.g. fire service vehicles and vehicles with New Zealand crew cab)**

**Oil specifications and oil-change intervals**

Hydraulic gearbox	Oil specification acc. to MAN company standard	Normal use			Maximum mileage		
		(km)	(months)	(h)	(km)	(months)	(h)
Ecomat	Shell Spirax S6 ATF VM Plus	60,000	12	750	30,000	12	500

## Maintenance intervals

### Hydraulic gearbox (automatic gearbox)

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#### MAN Individual

##### Oil specifications and oil-change intervals

Hydraulic gearbox	Oil specification	Alternative oil specification	Maximum mileage (km) (months)	
Automatic gearbox (manufactured by Allison) 3000 and 4000	<b>Shell Spirax S6 ATF A668</b>	Allison TES 668, Allison TES 295	120,000	36

## Manual gearboxes

TGL, TGM

### Oil specifications and oil-change intervals

Manual gearboxes	Oil specification acc. to MAN company stan- dard	Maximum mileage			
		Normal use		Operation at high temperatures and heavy-duty operation	
		(km)	(months)	(km)	(months)
Ecolite S5-42, 6S-850 TO	<b>MAN 341 Z2</b>	120,000	12	—	—
	MAN 341 Z5	360,000	36	240,000	36
	MAN 341 Z4	240,000	24	160,000	24
Ecolite 6S-800 TO, 6S-1000 TO Ecomid 9S-1110 TD, 9S-1310 TO	<b>MAN 341 Z5</b>	360,000	36	240,000	36
	MAN 341 Z4	240,000	24	160,000	24
	MAN 341 Z2	120,000	12	—	—

## Maintenance intervals

### Manual gearboxes

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#### TGS, TGX

##### Oil specifications and oil-change intervals

Manual gearboxes	Oil specification acc. to MAN company stan- dard	Maximum mileage				
		Normal use		Operation at high temperatures and heavy-duty operation		
		(km)	(months)	(km)	(months)	(h)
Ecosplit 16S	<b>MAN 341 Z5</b>	540,000	36	360,000	36	—
	MAN 341 Z4	360,000	24	240,000	24	—
Ecosplit 16S-2522 with engine-dependent PTO 221	<b>MAN 341 Z5</b>	—	—	200,000	24	10,000
	MAN 341 Z4	—	—	100,000	12	5,000

**MAN TipMatic (automated manual gearboxes)**

TGL, TGM

**Oil specifications and oil-change intervals**

<b>MAN TipMatic</b>	<b>Oil specification acc. to MAN company stan- dard</b>	<b>Maximum mileage</b>			
		<b>Normal use</b>	<b>Operation at high temperatures and heavy-duty operation</b>	<b>(km)</b>	<b>(months)</b>
MAN TipMatic Lite 6AS850 <sup>1</sup>	<b>MAN 341 Z2</b>	120,000	12	—	—
	MAN 341 Z4	240,000	24	160,000	24
	MAN 341 Z5	360,000	36	240,000	36
MAN TipMatic Lite 6AS800, 6AS1000 <sup>1</sup> MAN TipMatic Mid 12AS1210	<b>MAN 341 Z5</b>	360,000	36	240,000	36
	MAN 341 Z4	240,000	24	160,000	24
	MAN 341 Z2	120,000	12	—	—

<sup>1</sup> Topping up hydraulic oil for shift unit in TipMatic Lite 6AS800, 6AS850, 6AS1000

The shift unit (power pack) in the MAN TipMatic Lite 6AS800, 6AS850 and 6AS1000 gearboxes is permanently filled with Pentosin CHF 11 S hydraulic oil in accordance with M 3289 ZHF. In the event of repairs, only Pentosin CHF 11 S is allowed to be used as hydraulic oil. Information on checking the oil level and filling the shift unit can be found in the corresponding maintenance instructions.

## Maintenance intervals

### MAN TipMatic (automated manual gearboxes)

TGS, TGX

Oil specifications and oil-change intervals

MAN TipMatic	Oil specification acc. to MAN company stan- dard	Maximum mileage			
		Normal use		Operation at high temperatures and heavy-duty operation	
		(km)	(months)	(km)	(months)
MAN TipMatic 12AS with intarder MAN TipMatic 12TX with/without intarder	<b>MAN 341 Z5</b>	540,000	36	360,000	36
	MAN 341 Z4	360,000	24	240,000	24
MAN TipMatic 12AS without intarder	<b>MAN 341 Z5</b>	540,000	36	360,000	36
	MAN 341 Z4	360,000	24	240,000	24
	MAN 341 Z2	160,000	12	—	—

**TGS, TGX****Oil specifications and oil-change intervals**

<b>MAN TipMatic</b>	<b>Oil specification acc. to MAN company standard</b>	<b>Maximum mileage</b>	
		<b>(km)</b>	<b>(months)</b>
MAN TipMatic 14 GRS(O) 905 without retarder	<b>MAN 341 GA2, MAN 341 GB</b>	360,000	36
	MAN 341 GA1	240,000	24
MAN TipMatic 14 GRS(O) 905 with retarder	<b>MAN 341 GA2, MAN 341 GB</b>	360,000	36
MAN TipMatic 14.25, 14.33	<b>MAN 341 GB</b>	800,000	60
Retarder R3500, R4100, R4700D	MAN 339 Z2	360,000	36
Clutch actuator for MAN TipMatic 14 GRS(O) 905	<b>Brake fluid DOT 4, FMVSS 116, SAE J 1703</b>	24 months	
Shifting device for MAN TipMatic 14 GRS(O) 905	<b>Shell Spirax S2 ATF AX</b> MAN 339 Z1, Z2, Z3, Z4	Check the fill level when changing the gearbox oil	

## Maintenance intervals

MAN TipMatic (automated manual gearboxes)

**TGX heavy-duty semitrailer tractor**

**Oil specifications and oil-change intervals**

MAN TipMatic	Oil specification acc. to MAN company stan- dard	Maximum mileage				
		Normal use		Operation at high tem- peratures and heavy-duty operation		
(km)	(months)	(km)	(months)	(h)		
<b>Manual gearbox with converter-clutch unit for Euro 5 heavy-duty semitrailer tractor and other applications</b>						
MAN TipMatic 12TC2540, 12TC2740	<b>MAN 341 Z5</b>	300,000	36	200,000	24	10,000
	MAN 341 Z4	200,000	24	100,000	12	5,000
TC2 converter-clutch unit	<b>MAN 339 Z4</b>	120,000	12	120,000	12	—
	MAN 339 Z3					
	MAN 339 Z2					
<b>Manual gearbox with converter-clutch unit for Euro 6 heavy-duty semitrailer tractor</b>						
MAN TipMatic 12TCHD3041	<b>MAN 341 Z5</b>	300,000	36	200,000	24	10,000
Converter-clutch unit TCHD	<b>MAN 341 Z5</b>	300,000	36	200,000	24	10,000

**ENGINE-DEPENDENT F.PTO POWER TAKE-OFF (MANUFACTURED BY OMSI)**

**MAN Individual**

**Oil specifications and oil-change intervals**

PTO	Oil specification acc. to MAN company standard	Maximum mileage	
		(h)	(months)
Engine-dependent F.PTO Power take-off (manufactured by OMSI)	MAN 341 Z4, MAN 341 Z5	the first time after	
		100	—
		thereafter	every
		1,000	18

## Maintenance intervals

Retarder VR 120-3 (manufactured by VOITH)

### RETARDER VR 120-3 (MANUFACTURED BY VOITH)

#### MAN Individual

##### Oil specifications and oil-change intervals

Retarder	Oil specification acc. to MAN company stan- dard	Long-haul trans- port (km)	Maximum	mileage	(months)
			Distribution transport (km)	Operation at high temperatures (km)	
Retarder VR 120-3 (manufactured by Voith)	MAN 341 VR	180,000	135,000	90,000	24

## TRANSFER CASE

### Change-over, initial fill of transfer case oil

Transfer case	Date	Oil specification in accordance with MAN Company standard, initial fill
G172, G173	Until 31.10.2016	MAN 342 S1
	from 01.11.2016 to 30.09.2023	MAN 342 S2 (SAE 75W-90)
	from 01.10.2023	MAN 342 S2 (SAE 75W-85)

## Maintenance intervals

Transfer case G102, G103

### Transfer case G102, G103

TGL, TGM

#### Oil specifications and oil-change intervals

Transfer case	Oil specification acc. to MAN company standard	Maximum mileage			
		Normal use		Operation at high temperatures	
		(km)	(months)	(km)	(months)
G102, G103	MAN 342 M3	200,000	24	130,000	24
	MAN 342 S1, MAN 342 S2	200,000	36	130,000	36
	MAN 342 M2	125,000	24	80,000	24

**Transfer case G172, G173, G252,  
G253**

TGA, TGS, TGX

**Oil specifications and oil-change intervals**

Transfer case	Oil specification acc. to MAN company standard	Maximum mileage			
		Normal use		Operation at high temperatures	
		(km)	(months)	(km)	(months)
G172, G173	<b>MAN 342 S2</b> , MAN 342 S1	180,000	36	120,000	36
	MAN 342 M3	180,000	24	120,000	24
	MAN 342 M2	90,000	24	60,000	24
G173-LN/N (with PTO)	<b>MAN 342 S2</b> , MAN 342 S1	180,000	12	120,000	12
G252, G253L	<b>MAN 341 Z5</b> , MAN 342 S1	180,000	24	120,000	24
G253-LN (with PTO)	<b>MAN 341 Z5</b> , MAN 342 S1	180,000	12	120,000	12
G253P22-L-H	<b>MAN 341 Z5</b>	180,000	24	120,000	24

## Maintenance intervals

### Change-over, initial fill of axle

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## AXLES

### Change-over, initial fill of axle

The driven axles are initially filled with axle oil in accordance with MAN 342 M3 as standard. At the request of the customer, the driven axles are filled with axle oil in accordance with MAN 342 S2 where possible. Information on which oil the axle is initially filled with can be found on page 5 of the maintenance record.

MAN 342 S2 factory filling only, not available from Sales.

Axle	Period	Oil specification in accordance with MAN company standard, initial fill
Hypoid axles	Until 31.10.2016	MAN 342 S1
	from 01.11.2016 to 30.09.2023	MAN 342 M3, MAN 342 S2 (SAE 75W-90)
	from 01.10.2023	MAN 342 M3, MAN 342 S2 (SAE 75W-85)
Planetary axles	Until 31.10.2016	MAN 342 M1
	from 01.11.2016 to 30.09.2023	MAN 342 M3, MAN 342 S2 (SAE 75W-90)
	from 01.10.2023	MAN 342 M3, MAN 342 S2 (SAE 75W-85)

## Hypoid axles

TGL, TGM

### Oil specifications and oil-change intervals

Hypoid axles	Oil specification acc. to MAN company standard	Maximum mileage		
		Normal Usage (km)	Operation at high tem- peratures (km)	(months)
Up to 15 t total weight: HY-0718, HY-0925, HY-1130	<b>MAN 342 M3</b>	200,000	130,000	24
	MAN 342 S1, MAN 342 S2	300,000	200,000	36
	MAN 342 M2	125,000	80,000	24
Over 15 t total weight: HY-1133, HYD-1160, HY-1350, HYD-1370	<b>MAN 342 M3</b>	200,000	130,000	24
	<b>MAN 342 S2, MAN 342 S1</b>	300,000	200,000	36
	MAN 342 M2	125,000	80,000	24

## Maintenance intervals

### Hypoid axles

#### TGA, TGS, TGX

#### Oil specifications and oil-change intervals

Hypoid axles	Oil specification acc. to MAN company standard	Maximum mileage		
		Normal Usage (km)	Operation at high tem- peratures (km)	(months)
As a single axle: HY-1344, HY-1350, HY-1360	<b>MAN 342 M3</b>	320,000	210,000	24
	<b>MAN 342 S2 (SAE 75W-90)</b>	750,000	540,000	60
	<b>MAN 342 S2 (SAE 75W-85)</b>	600,000	450,000	60
	MAN 342 S1	500,000	360,000	36
	MAN 342 M2	160,000	110,000	24
As a twin axle: HY-1133, HY-1344, HY-1350, HY-1360, HYD-1160, HYD-1368, HYD-1370, HYD-1390	<b>MAN 342 M3</b>	320,000	210,000	24
	<b>MAN 342 S2, MAN 342 S1</b>	500,000	360,000	36
	MAN 342 M2	160,000	110,000	24

The wheel hubs of the hypoid axles are maintenance-free.

**eTGS, eTGX****Oil specifications and oil-change intervals**

<b>Hypoid axles</b>	<b>Oil specification acc. to MAN company standard</b>	<b>Maximum mileage</b>		
		<b>Normal Usage</b> (km)	<b>Operation at high tem- peratures</b> (km)	<b>(months)</b>
HY-1344, HY-1360	<b>MAN 342 M3</b>	200,000	200,000	24
	<b>MAN 342 S2, MAN 342 S1</b>	200,000	200,000	36

The wheel hubs of the hypoid axles are maintenance-free.

## Maintenance intervals

### Planetary axles

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#### Planetary axles

TGL, TGM

##### Oil specifications and oil-change intervals

Planetary front axles, planetary rear axles  VP 06, VP 09 HP-0728-E, HP-0928, HP-1333	Oil specification acc. to MAN company standard	Maximum mileage		
		Normal Usage (km)	Operation at high tem- peratures (km)	(months)
	MAN 342 M3	200,000	130,000	24
	MAN 342 S1, MAN 342 S2	200,000	130,000	36
	MAN 342 M2	125,000	80,000	24

**TGA, TGS, TGX****Oil specifications and oil-change intervals**

<b>Planetary front axles, planetary rear axles</b>	<b>Oil specification acc. to MAN company standard</b>	<b>Maximum mileage</b>		
		<b>Normal Usage (km)</b>	<b>Operation at high tem- peratures (km)</b>	<b>(months)</b>
VP 09, VPD 09, VP 11, VPD 11 HP-1333(-E), HP-1342-E, HP-1352, HP-1652, HPD-1353(-E), HPD-1372-E, HPD-1382, HPD-1682 HP-1352, HP-1652, HPD-1382, HPD-1682	<b>MAN 342 M3</b>	180,000	120,000	24
	<b>MAN 342 S2, MAN 342 S1</b>	180,000	120,000	36
	<b>MAN 342 M2</b>	160,000	110,000	24

## Maintenance intervals

### Non-driven front axle

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#### Non-driven front axle

TGS, TGX

##### Oil specifications and oil-change intervals

Non-driven front axle	Oil specification acc. to MAN company standard	Maximum mileage	
		(km)	(months)
VOG 09	<b>MAN 342 M3</b>	180,000	24
	MAN 342 M2	160,000	24
	<b>MAN 342 S2, MAN 342 S1</b>	180,000	36

## **HYDRAULIC SYSTEMS**

### **Clutch, cab tilting system, tipper hydraulics, crane, cable winch**

#### **Lifetime fillings**

The following hydraulic systems are filled with hydraulic oil for their lifetime, an oil-change only takes place in the event of a repair:

- Cab tilt mechanism
- Clutch unit
- Tipper hydraulics
- Crane, cable winch

## Maintenance intervals

### Steering system

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#### Steering system

##### Service life filling

The steering systems are filled with hydraulic oil for their lifetime, an oil-change only takes place in the event of repairs. When changing the oil filter, top up the oil if necessary.

##### Oil specifications and service intervals

Steering system	Maintenance work	Oil specification acc. to MAN company standard	Maximum mileage	
			(km)	(months)
Front axle	Checking the steering system	MAN 339 L1	the first time after	
			600,000	48
			thereafter every	
			300,000	48
Leading or trailing axle	Checking the steering system	MAN 339 L1	the first time after	
			600,000	48
			thereafter every	
			300,000	48

**Hydrostatic fan drive, semitrailer hydraulics**

**TGX Euro 5 and Euro 6 heavy-duty semitrailer tractors**

**Oil specifications and oil-change intervals**

<b>Hydrostatic fan drive, semitrailer hydraulics</b>	<b>Oil specification</b>	<b>Maximum mileage (km)</b>	<b>mileage (months)</b>
Hydrostatic fan drive, Semitrailer hydraulics	ISO VG 32 in accordance with DIN 51524-3 (HVLP), ISO 6743-4 (HV)	—	36
	ISO VG 32 in accordance with DIN 51524-2 (HLP), ISO 6743-4 (HM)		

## Maintenance intervals

### MAN HydroDrive

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#### MAN HydroDrive

TGS, TGX

##### Oil specifications and oil-change intervals

MAN HydroDrive	Oil specification	Maximum mileage		
		Normal Usage (km)	Operation at high temperatures (km)	(months)
MAN HydroDrive, hydraulic system	ISO VG 46 in accordance with DIN 51524-3 (HVLP), ISO 6743-4 (HV)	the first time after		
		60,000	40,000	12
	ISO VG 46 in accordance with DIN 51524-2 (HLP), ISO 6743-4 (HM)	thereafter every		
		120,000	80,000	24
MAN HydroDrive, PTO	MAN 341 Z5	60,000	40,000	12

## **SILO COMPRESSOR (MANUFACTURED BY GHH)**

### **MAN Individual**

#### **Oil specifications and oil-change intervals**

<b>Silo compressor</b>	<b>Oil specification acc. to MAN company stan- dard</b>	<b>(months)</b>
CS580 Light, CS750 Light, CS700 (IC), CG 600 (IC), CS1200 Light, CS1200 (IC), CS1050 (IC)	Silol FG, Silol	12
	M 3277 <sup>1</sup>	6

<sup>1</sup> M 3277 only for temperatures from -20 °C to +25 °C

## **Maintenance intervals**

### Air-conditioning system and refrigerant compressor

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## **AIR-CONDITIONING SYSTEM AND REFRIGERANT COMPRESSOR**

### **Lifetime fill**

The air-conditioning systems are filled with refrigerant for their lifetime, a refrigerant change only takes place in the event of a repair. The following refrigerant compressors are filled with refrigerator oil for their lifetime, an oil-change only takes place in the event of a repair:

- Mahle
- Sanden SD7H15
- Sanden SHS-15L3152
- TCCI

## **GREASING POINTS**

### **Periodic lubrication**

Information about the intervals for periodic lubrication can be found in the Operator's Manual.

### **Lifetime lubrication**

The following components are equipped with lifetime lubrication:

- Brake shoe bolt
- Brake shoe roller
- Nozzle holders (installation of pressure screw)
- Exhaust system (mounting bolts)
- Constant-velocity shafts
- Steering knuckle bearing

For components with lifetime lubrication, the specifications are shown for greasing and lubricating in the event of repairs.

## **Maintenance intervals**

### Greasing points

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## GENERAL INFORMATION ABOUT FILL QUANTITIES

### Engine oil

The specified fill quantity is the fill quantity in litres required for oil-change. The decisive factor in obtaining the precise fill quantity is to check the oil level on the oil dipstick. Information on checking the oil level can be found in the Operator's manual. Information on how to change the oil can be found in the Maintenance Instructions.

The top-up quantity is the quantity between MIN and MAX on the oil dipstick.

### Coolant

The fill quantities indicated are fill quantities for the dry unit's initial fill. When changing the coolant, the fill quantity may be a few litres less. The specified fill quantities apply for a standard mixing ratio of 50 vol. % anti-freeze and anti-corrosion agent and 50 vol. % water. For countries with low temperatures, a different mixing ratio applies. Information on the mixing ratio can be found in the chapter "Service products" (see "Coolants", Page 32). Filling of the coolant expansion tank up to the MAX marking is essential. Information on checking the coolant level can be found in the Operator's Manual. Information on how to change the

coolant can be found in the Maintenance Instructions.

### Gearbox oil

The decisive factor in obtaining the precise fill quantity is to check the oil level. Information on checking the oil level and on performing the oil-change can be found in the Maintenance Instructions.

The fill quantities without PTO are specified in the table for manual gearboxes. The fill quantities for the PTO are specified in a separate table.

### Transfer case oil

The specified fill quantities are fill quantities for the dry unit. The decisive factor in obtaining the precise fill quantity is to check the oil level on the filler opening. Information on checking the oil level and on performing the oil-change can be found in the Maintenance Instructions.

### Axle oil

Especially for axles, the installation position in the vehicle must be taken into account to determine the correct oil level.

The specified fill quantities are fill quantities for the dry unit. The decisive factor in obtaining the precise fill quantity is to check the oil level. Information on checking the oil level and on performing the oil-change can be found in the Maintenance Instructions.

### Hydraulic oil, refrigerator oil

The decisive factor in obtaining the precise fill quantity is to check the oil level. Information on checking the oil level and on performing the oil-change can be found in the Maintenance Instructions.

### Refrigerant

The fill quantities for the refrigerant are specified for each model series.

## Fill quantities

### Engine oils

## ENGINE OILS

Diesel engine	Notes	Fill quantity (Litres)	Refill quantity (Litres)
D0834 with EGR	—	15	4
D0834 with SCR	Without oil filter	16.5	
	With oil filter	18	
D0836 with EGR (250 hp)	—	20	
D0836 with EGR (290/320 hp)	—	26	5
D0836 with SCR (road vehicles)	Without oil filter	25.5	
	With oil filter	27	
D0836 with SCR (off-road vehicles)	Without oil filter	16	4
	With oil filter	20	
D15	Without oil filter	39	5
	With oil filter	41	
D20, D26	Without oil filter	40	6
	With oil filter	42	
D28 (with green oil dipstick)	Without oil filter	40	
	With oil filter	42	
D28 (with red oil dipstick)	Without oil filter	30	
	With oil filter	33	
D38	Without oil filter	45	
	With oil filter	49	
D30	Without oil filter	43	9
	With oil filter	45	

## OIL FOR DRIVE UNIT (ELECTRIC)

### eTGS, eTGX

Drive unit (electric)	Capacity for oil sump 12° (Litres)	Capacity for oil sump 24° (Litres)
Drive unit	17.5	16.8
Additional fill quantity, depending on equipment		
single PTO, top	1.85	1.35
single PTO without gearbox	0.35	0.20

## Fill quantities

Air compressor oil (for electric air compressor)

### AIR COMPRESSOR OIL (FOR ELECTRIC AIR COMPRESSOR)

eTGS, eTGX

Electric air compressor	Fill quantity (Litres)
Electric air compressor	1.9

**COOLANTS****Cooling and heating system**

Diesel engine	Notes	Fill quantity (Litres)
D0834	—	23
D0836	250 PS (184 kW)	25
	290 PS (213 kW), 320 PS (235 kW)	30
D1556	Without Intarder	45
	With Intarder	57
D2066, D2676 Euro 2 to 5	Without Intarder	47
	With Intarder	59
	With PriTarder	50.5
D2066, D2676 Euro 6a/b/c	without intarder	64
	with Intarder	76
	With PriTarder	67.5
D2676 Euro 6d/e	Without Intarder	47
	With Intarder	59
D2676	Heavy-duty semitrailer tractor with rear cooling tower	75
D2868	With Intarder	57
	Heavy-duty semitrailer tractor	80
D2876	Without Intarder	42.5
	With Intarder	54

## Fill quantities

### Coolants

Diesel engine	Notes	Fill quantity (Litres)
D3066	without intarder	40
	with Intarder	50
D3876	Without intarder	68
	With intarder	80
	Heavy-duty semitrailer tractor with TipMatic 12TC HD-3041 SO	85
	Heavy-duty semitrailer tractor with TipMatic 12TC HD-3041 SO and additional cooling	100

### Cooling system for cab, high-voltage components, high-voltage batteries

Series	Notes	Fill quantity (Litres)
eTGS, eTGX	Coolant circuit with 3 high-voltage batteries	50
	Coolant circuit with 4 high-voltage batteries	55
	Coolant circuit with 5 high-voltage batteries	60
	Coolant circuit with 6 high-voltage batteries	65

## GEARBOX OILS

### Hydraulic gearbox (automatic gearbox)

Hydraulic gearbox	Fill quantity for oil-change (Litres)	Fill quantity for initial fill / after repair (Litres)
Ecomat	14 - 17	30 <sup>1</sup>
MAN PowerMatic 8AP-900-T, 8AP-1200-T	6	17.2

<sup>1</sup> First filling of the dry gearbox (with oil cooler). The re-filling quantity after the gearbox has been installed in the vehicle is approx. 20 litres.

Hydraulic gearbox (MAN Individual)	Fill quantity for oil-change (Litres)	Fill quantity for initial fill / after repair (Litres)
Allison 3000 with 10-cm oil sump	18	27
Allison 3000 with 5-cm oil sump	16	25
Allison 4000 with 10-cm oil sump	37	45
Allison 4000 with 5 cm oil sump	30	38
Allison 3000/4000 additional fill quantity, depending on the equipment		
Power take-off (PTO)	1.5	—
Without retarder, directly attached heat exchanger	0.5	—
with retarder, directly attached heat exchanger	1	—
with retarder, remote swamp cooler	1.3	—
with retarder accumulator	1	—

## Fill quantities

### Manual gearboxes

#### Manual gearboxes

Manual gearboxes	Fill quantity for oil-change (Litres)	Fill quantity for initial fill / after repair (Litres)
Ecolite, S5-42	—	3.2
Ecolite, 6S800 TO, 6S850	9.6	9.8
Ecolite, 6S1000 TO	9	9.3
Ecomid, 9S1110 TO, 9S1310 TO	8.5	8.8
Ecosplit 16S1820 without intarder	8	11
Ecosplit 16S1920, 16S2220, 16S2320, 16S2520	10	13
Ecosplit 16S1821 with intarder 2	11	18.5
Ecosplit 16S1921, 16S2221, 16S2321, 16S2521	12	21.5
Ecosplit 16S1821 with intarder 2 and heat exchanger adapter (four-axle vehicles)	12	19.5
Ecosplit 16S1921, 16S2221, 16S2321, 16S2521, with heat exchanger adapter (four-axle vehicles)	13	22.5
Ecosplit 16S2522 with engine-dependent PTO 221	—	15
Ecosplit 16Sxxxx with gearbox oil cooler T3	—	28.5
Ecosplit 4 16S2230, 16S2330, 16S2530 without intarder	12.4	15.4
Ecosplit 16S2533 for MAN HydroDrive (fill volume without PTO)	—	15.5
Ecosplit 4 16S2231, 16S2331, 16S2531 with intarder 3 as of 01/11/2016	18.5	25

**MAN TipMatic (automated manual gearboxes)**

MAN TipMatic	Fill quantity for oil-change (Litres)	Fill quantity for initial fill / after repair (Litres)
MAN TipMatic Lite, 6AS800 TO, 6AS850 TO	9.6	9.8
MAN TipMatic Lite, 6AS1000 TO	9	9.3
MAN TipMatic Mid 12AS1210	7.5	7.8
MAN TipMatic 12AS without intarder	11	12
MAN TipMatic 12AS2131, 12AS2331, 12AS2531 with intarder 2/3	17.5	22
MAN TipMatic 12AS2741 12AS3041, 12AS3141 with intarder 2	—	23.5
MAN TipMatic 12AS2741 12AS3041, 12AS3141 with intarder 3	18.5	23
MAN TipMatic 12TX2210, 12TX2610 without intarder	11	12.5
MAN TipMatic 12TX2416 for MAN HydroDrive (fill volume without PTO)	—	15.5
MAN TipMatic 12TX2826 for MAN HydroDrive (fill volume without PTO)	—	16.5
MAN TipMatic 12TX2620, 12TX2820, 12TX3020	12	13.5
MAN TipMatic 12TX2211, 12TX2416, 12TX2611 with intarder	19	22.5
MAN TipMatic 12TX2621, 12TX2821, 12TX3021	19	23.5
MAN TipMatic 14.25 (fill volume without PTO)	—	9.4
MAN TipMatic 14.33 (fill volume without PTO)	—	10.6
MAN TipMatic 14.25, 14.33 Additional fill quantity, depending on equipment		
Retarder R4700D	—	2.0
Oil cooler, liquid-cooled	—	0.7
Air-cooled oil cooler	—	1.5

## Fill quantities

### MAN TipMatic (automated manual gearboxes)

MAN TipMatic	Fill quantity for oil-change	Fill quantity for initial fill / after repair
	(Litres)	(Litres)
MAN TipMatic 14 GRS(O) 905 (fill volume without PTO)	—	14.5
Retarder R3500, R4100D	—	7.9
Clutch actuator	—	0.3
Shifting device	—	0.2
MAN TipMatic 12TC-2540, 12TC-2740	—	12.5
TC2 converter-clutch unit	—	18.5
MAN TipMatic 12TC HD-3041 SO	—	23
Converter-clutch unit TCHD	—	26.5

## OILS FOR PTO

PTO	Fill quantity (Litres)
Clutch-dependent PTO NMV in conjunction with Ecosplit 16S2522	2
Clutch-dependent PTO NMV N1	0.2
Clutch-dependent PTO NMV N2/4/5/6	0.5
Clutch-dependent PTO NMV N10	1
MAN TipMatic 14 GRS(O) 905 single PTO without reduction	0
MAN TipMatic 14 GRS(O) 905 single PTO with reduction	0.4
MAN TipMatic 14 GRS(O) 905 double PTO with reduction	0.7
MAN TipMatic 14.25, 14.33 PTO EG25R	0.87
MAN TipMatic 14.25, 14.33 PTO EG6R, EG8-12R, EG13R, EG16R	1.38
MAN HydroDrive PTO for Ecosplit and TipMatic 12TX	1.5
MAN Individual engine-dependent F.PTO (manufactured by OMSI)	7 - 8

## Fill quantities

Retarder oils

### RETARDER OILS

#### MAN Individual

Retarder	Fill quantity for oil-change (Litres)	Fill quantity for initial fill / after repair (Litres)
Retarder VR 120-3 (manufactured by Voith)	4.5	6.5

## TRANSFER CASE OILS

Transfer case	Unit type designation	Fill quantity (Litres)
G102, G103	G102Z, G103Z	5.5
	G102P26, G103P26	5.2
G172, G173	G172Z/-L, G173Z/-L	7
	G172P22/-L, G172P32/-L	5.8
	G173Z-N/-LN	7.2
	G173P22-N/-LN, G173P32-N/-LN	6
G252, G253	G252Z-L, G253Z-L	9.3
	G252P22-L, G252P32-L, G253P22-L, G253P32-L, G253P22-L-H	8.5
	G253Z-LN	9.5
	G253P22-LN, G253P32-LN	8.7

## Fill quantities

### Hypoid axles

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## AXLE OILS

### Hypoid axles

Hypoid axles	Fill quantity (Litres)
HY-0512, HY-0718	5.3
HY-0925, HY-1130	10
HY-1133	10
- Reduction gear (eTGM only)	1.3
HY-1344	10.5
HY-1350	14.5
HY-1360	10.5
HYD-1160	14
HYD-1368	14
HYD-1370	18
HYD-1390	14

**Planetary axles**

Planetary front axles	Fill quantity (Litres)			
	total	Final drive	Planetary drive	Steering knuckle (each side)
VP 06	8.2	6	2 x 1	2 x 0.05
VP 09	9.2	6	2 x 1.5	2 x 0.05
VPD 09	10.7	5 (drive shaft 2.5)	2 x 1.5	2 x 0.05
VP 11	8.7	5.5	2 x 1.5	2 x 0.05
VPD 11	10.2	4.5 (drive shaft 2.5)	2 x 1.5	2 x 0.05

Planetary rear axles	Fill quantity (Litres)		
	total	Final drive	Planetary drive
HP-0728-E	12.5	10.5	2 x 1
HP-0928	12	9	2 x 1.5
HP-1333	12.7	8.5	2 x 2.1
HP-1342-E	15	12	2 x 1.5
HP-1352	16.2	12	2 x 2.1
HP-1652	17.6	12	2 x 2.8
HPD-1353(-E)	14.7	10.5	2 x 2.1
HPD-1372-E	16.5	13.5	2 x 1.5
HPD-1382	17.7	13.5	2 x 2.1
HPD-1682	19.1	13.5	2 x 2.8

## Fill quantities

Non-driven front axle

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### Non-driven front axle

Non-driven front axle	Fill quantity (Litres)			
	total	Final drive	Planetary drive	Steering knuckle (each side)
VOG 09	3.2	—	2 x 1.5	2 x 0.05

## **HYDRAULIC OILS**

### **Steering system**

<b>Steering system</b>	<b>Notes</b>	<b>Fill quantity (Litres)</b>
Single-circuit steering	TGA, TGS, TGX	6 - 7
	TGL, TGM	3 - 4
Dual-circuit steering system	—	15 - 16
Steered leading or trailing axle	Electrical	4
	Mechanical	5

## Fill quantities

### Clutch

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#### Clutch

Clutch	Fill quantity (Litres)
Clutch unit	0.6
Shift clutch and hydraulic gearshift system (TGA)	2.8
Clutch actuator for MAN TipMatic 14 GRS(O) 905	0.3

**Hydrostatic fan drive, semitrailer hydraulics**

**TGX Euro 6 heavy-duty semitrailer tractor**

Hydrostatic fan drive, semitrailer hydraulics	Notes	Fill quantity (Litres)
Hydrostatic fan drive	—	33
Semitrailer hydraulics	3-stage system	145
	1-stage system	100

## Fill quantities

### Cab tilt mechanism

#### Cab tilt mechanism

Cab tilt mechanism	Notes	Fill quantity (Litres)
Cab tilt mechanism	Mechanical	0.5
	Electrical	0.8

## MAN HydroDrive

MAN HydroDrive	Notes	Fill quantity (Litres)
Hydraulic system	Reservoir	17
	Total	33
PTO	—	1.5

## Fill quantities

Oils for silo compressor (manufactured by GHH)

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### OILS FOR SILO COMPRESSOR (MANUFACTURED BY GHH)

#### MAN Individual

Silo compressor	Fill quantity (Litres)
CG 600 (IC), CS700 (IC)	9
CS1050 (IC)	8.5
CS1200 Light, CS1200 (IC)	3
CS580 Light, CS750 Light	3.9

## REFRIGERANTS AND REFRIGERATOR OILS

Model series (type)	R134a refrigerant fill quantity (kg)
TGA	0.95
TGL and TGM Vehicle types: N, D (also with crew cab)	0.75
TGS and TGX Euro 2 to 4 Vehicle types: S, X	0.95
TGS and TGX Euro 5 without AdBlue Vehicle types: S, X	0.80
TGS and TGX Euro 5 with AdBlue Vehicle types: S, X	0.95
TGS and TGX Euro 6 Vehicle types: S, X	0.80
TGS with crew cab Vehicle type: S	0.95
TGX with Euro 6d engine and auxiliary air-conditioning system Vehicle type: X	0.80
TGX with auxiliary air-conditioning system Vehicle type: X	1.15
CC, NN, DN cab (small and medium cab, crew cab) Vehicle types: E, F, J, K	0.60
GM, GN, GX, TM, TN cab Vehicle types: E, F, J, K	0.65
GM, GN-, GX-, TM-, TN cab with auxiliary air-conditioning system Vehicle types: E, F, J, K	0.70

## Fill quantities

### Refrigerants and refrigerator oils

Model series (type)	R134a refrigerant fill quantity (kg)
eTGS and eTGX cab at 500 A (CCS) Vehicle types: U, H	0.65
eTGS and eTGX cab at 1000 A charge (MCS) Vehicle types: U, H	0.80
eTGS and eTGX high-voltage batteries and high-voltage components Vehicle types: U, H	0.845

## Topping up refrigerator oil when repairing a component

Component designation	Refrigerator oil top-up quantity (cm <sup>3</sup> )
Refrigerant compressor	No top-up required
Condenser	20
Refrigerant tank	10
Air-conditioning evaporator	30
Refrigerant hose	10 per m hose

If the system drains suddenly (e.g. due to a burst hose), top up with 50 cm<sup>3</sup> refrigerator oil.

If the refrigerant compressor is replaced, the air-conditioning system must be completely emptied. Subsequently, no refrigerator oil needs to be replenished, since the new refrigerant compressor is already filled with the quantity of oil for the entire air-conditioning system.

Exception: For TGX (vehicle type X) with auxiliary air-conditioning system and corresponding air-conditioning evaporator, 100 cm<sup>3</sup> of refrigerator oil must be added.

## Fill quantities

### Refrigerants and refrigerator oils

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## LIST OF ABBREVIATIONS AND INDEX

### ABBREVIATIONS

Abbreviation	Meaning of abbreviation	
AGN	Exhaust Gas Aftertreatment	—
EGR	Exhaust Gas Recirculation	—
ATF	Automatic Transmission Fluid	Hydraulic oil for use in hydraulic gearboxes
CRT	Continously Regenerating Trap	Diesel oxidising catalytic converter and diesel particulate filter
CVM	Central Vehicle Manager	The central control unit for the driveline in the new TG generation (from 2020) corresponds to the PTM of the previous generations
DIN	German institute for standards	—
DOC	Diesel Oxidation Catalytic Converter	Diesel oxidising catalytic converter
EEV	Enhanced Environmentally Friendly Vehicle	Emission standard for particularly environmentally friendly vehicles
EN	European standard	—
FAME	Fatty Acid Methyl Ester	Fuel made from plants
FIN	Vehicle identification number (VIN)	—
GTL	Gas To Liquid	Synthetic fuel made from natural gas
HP	Planetary rear axle	—
HPD	Planetary rear axle with drive shaft	—
HVO	Hydrogenated Vegetable Oil	Hydrated vegetable oils

## Indexes

### List of abbreviations and index

Abbreviation	Meaning of abbreviation	
HY	Hypoid axle	—
HYD	Hypoid axle with drive shaft	—
ISO	International Organization for Standardization	International Organisation for Standardisation
NMV	Engine-dependent PTO installed upstream of the gearbox	—
OBD	On Board Diagnostics	—
PM-KAT	Particulate Matter Catalytic converter	Diesel particulate filter with catalytic converter
ppm	parts per million	Ratio 1/1,000,000
PTO	Power Take Off	PTO
RME	Rapeseed oil Methyl Ester	Biodiesel fuel made from rapeseed oil
S	Sulphur	Chemical symbol for sulphur
SAE	Society of Automotive Engineers	American organisation for the definition of industry standards
SCR	Selective Catalytic Reduction	Exhaust gas aftertreatment system with AdBlue
VP	Planetary front axle	—
VPD	Planetary front axle with drive shaft	—

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