

# MAN Nutzfahrzeuge Aktiengesellschaft

## Service Information







<b>Instruction</b> Product technology	Date 09.01.2007	Issued by VAST	SI number <b>180911a</b> "Biodiesel" RME
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<b>Vehicle(s) affected</b>	All, except for buses/coaches with Common Rail D08 engines and horizontally installed Common Rail engines
<b>Component(s) affected</b>	Engine, fuel system, auxiliary heater

<b>Fundamental information, Cleared fuels</b>	MAN engines cleared for RME operation as per the list on <a href="#">page 2</a> may be run on <b>RME (Rape seed oil MethylEster)</b> , <ul style="list-style-type: none"> <li>if the RME fuel conforms to <b>DIN EN 14214</b> and</li> <li>the following preconditions/restrictions are complied with.</li> </ul>
<b>Fuels not cleared</b>	All other fuels designated as "Biodiesel" and all other alternative fuels such as <ul style="list-style-type: none"> <li><b>FAME (Fatty Acid MethylEster)</b> Exception: FAME as per DIN EN 14214, which consists <b>exclusively</b> of <b>RME</b>,</li> <li><b>PME (vegetable methylester)</b> Exception: PME as per DIN EN 14214, which consists <b>exclusively</b> of <b>RME</b>,</li> <li><b>AME (Acid MethylEster also called Altspeisefettmethylester)</b></li> <li><b>Vegetable oils</b> (eg rape oil, palm oil),</li> <li><b>Oils and greases heated by means of double tank systems,</b></li> <li><b>Alcohols</b> (ethanol, methanol), etc.</li> </ul> <p>or the admixture thereof are <b>not cleared for use in MAN engines.</b></p>

Yours faithfully,  
MAN Nutzfahrzeuge Aktiengesellschaft


  
 ppa. i.V.

	This SI supersedes SI 180911 and 93 10 29/11 including all supplements.		
Distribution of this SI to the worldwide service organisation			
Forwarding within the organisation of the MAN Service workshop:			
Workshop management	yes	Personnel in spare parts store	no
Workshop personnel for performance of the work	yes	Emergency service mechanics	no
Workshop personnel in general (notice board)	yes	Customers' workshops authorised for servicing	yes

<b>Engines/vehicles cleared for RME operation</b>	<p>Buses/coaches with Common Rail D08 engines and all horizontally installed Common Rail engines are not cleared for RME operation; for the rest, the following applies:</p> <p>D08 engines★: RME operation permissible from eng. no. xxx8953591xxxx</p> <p>D20 engines★: RME operation permissible</p> <p>D26 engines★: RME operation permissible</p> <p>D28 engines★: RME operation permissible from eng. no. xxx8953001xxxx</p> <p>★: Common Rail engines may be run on RME only if a purchased guarantee for the injection system components is obtained (see <a href="#">page 4</a>).</p> <p>The chassis of all trucks with engines cleared for RME operation are equipped with RME-compatible components (fuel system, fuel level transmitter).</p> <p>Please heed the following notes on mixed operation, maintenance, downtimes, auxiliary heater and liability for defects</p>
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<b>Mixed operation</b>	<ul style="list-style-type: none"> <li>• Admixture of RME fuel as per DIN EN 14214 to diesel fuel as per DIN EN 590: <ul style="list-style-type: none"> <li>• <b>Up to max. 5%:</b> Unrestricted clearance for all engines.</li> <li>• <b>More than 5%:</b> The same restrictions/maintenance regulations apply as for operation with pure RME fuel.</li> </ul> </li> <li>• Alternating operation with diesel fuel DIN EN 590/RME DIN EN 14214: <ul style="list-style-type: none"> <li>• The same restrictions/maintenance regulations apply as for operation with pure RME fuel.</li> </ul> </li> </ul>
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<b>Maintenance</b>	<p>The evaporating properties of RME are more unfavourable than those of diesel fuel; consequently, RME leads to oil dilution and to a drop in engine-oil viscosity. The engine oil change intervals (incl. those for the oil filter) must be shortened as per the following table.</p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: center;">Annual kilometrage</th> <th style="text-align: center;">Change engine oil, engine oil filter and fuel filter</th> </tr> </thead> <tbody> <tr> <td>up to max. 45,000 km or max. 600 operating hours</td> <td>every 20,000 km or 400 operating hours</td> </tr> <tr> <td>more than 45,000 km</td> <td>every 30,000 km or 600 operating hours</td> </tr> </tbody> </table> <p>Temperature-, oxygen- and water-related influences may expedite the ageing of RME fuel. The oxidising products generated in the ageing process may cause the fuel filter to clog up.</p> <p>In particular, changeover from diesel-fuel to RME operation may initially cause the fuel filters to clog up frequently, as RME dissolves residues that may be present in the fuel system.</p> <p>Fuel filters are wearing parts and can on no account be settled under liability for defects. The fuel filters are to be exchanged no later than at every engine oil change.</p> <p>We recommend not to install fuel prefilters (eg SEPAR) for RME operation. Oxidising products are separated out in the prefilter; however, since the effective filter face of the prefilter is small in relation to the main fuel filter, this may prematurely lead to an insufficient supply of fuel.</p>	Annual kilometrage	Change engine oil, engine oil filter and fuel filter	up to max. 45,000 km or max. 600 operating hours	every 20,000 km or 400 operating hours	more than 45,000 km	every 30,000 km or 600 operating hours
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**Downtimes**

When decommissioning the vehicle or taking it off the road for more than four weeks, flush the entire fuel system beforehand by driving the vehicle with diesel fuel (at least 2 tank fills) as per DIN EN 590

**Auxiliary heater**

Cleared for RME operation (precondition: fuel supply is RME-suitable):

Airtronic D4S, Hydronic D5WSC, D1LCC, D3LCC

Experience shows that even in respect of cleared heaters RME operation may cause an increased maintenance input and lead to failures. This is due to the fact that the quality of fuels available on the market continues to vary quite considerably.

As regards auxiliary heaters for buses/coaches, there is no clearance from either Webasto or Eberspächer. The components are RME-suitable, so that technically speaking RMR operation would be possible, but the heaters do not ignite reliably without jet nozzle preheating at low temperatures. In addition, heavier soot development on starting and, consequently, swift sooting of the nozzles are to be reckoned with.

**Liability for defects**

The usual liability for defects applies to all engines cleared for RME operation. To Common Rail engines, however, it applies only if a purchased guarantee has been acquired in addition (see [page 4](#)).

In the event of damage to the injection system (high-pressure pump, rail system, injectors, injection pump, injection nozzles) take a fuel sample (approx. ½ litre from the centre of the fuel tank content), which may be requested by VASL as required.

The precondition for entitlement to coverage under liability for defects is that the engine-oil and filter changes have been carried out at the specified intervals (for intervals see "Maintenance") by an authorised MAN service workshop and been confirmed in the maintenance record.

## **Purchased guarantee**

For Common Rail engines the acquisition of a purchased guarantee is the precondition for clearance for operation with RME fuels as per DIN EN 14214.

If the purchased guarantee is intended for a vehicle in operation outside Europe, documentary proof must be furnished that RME fuel as per DIN EN 14214 is available in the respective country.

Purchased guarantees are submitted via a negative warranty claim

- Damage code for trucks: GWGS030 00 00 R1
- Damage code for buses/coaches: GWGS820 00 00 R1
- Text: BIODIESEL PURCHASED GUARANTEE EXTENSION.

The purchased guarantee must be acquired no later than 3 months following delivery of the vehicle and is valid for

- 48 months from date of first registration of vehicle,
- maximum 600,000 km,
- damage to
  - injectors with nozzles
  - rail/pressure pipe
  - high-pressure pump

Exceptions:

- For demonstration vehicles the purchased guarantee can still be obtained when the vehicle is sold to the end customer, but no later than 12 months following delivery of the vehicle from the plant. It is also valid from the date of first registration of the vehicle as described above.
- For vehicles under a maintenance agreement with MVD said maintenance agreement must be adapted accordingly. The purchased guarantee will then be included in the maintenance agreement. A separate purchased guarantee will not be necessary. Vehicles which are a under maintenance agreements and run on RME fuel must be reported to MVD-VD so that the maintenance agreements can be adapted accordingly. This must be done no later than 3 months following delivery of the vehicle from the plant (in the event of demonstration vehicles no later than 12 months following delivery of vehicle).