

NAME: **ENGINE OIL CHARGES FOR TEDOM ENGINES M 1.2 A, B**
PART 2 – GASEOUS FUEL ENGINES

1. INTRODUCTION

The engine oils for the gaseous fuel engines are broken down by this Regulation into two groups depending on their efficacy. The Regulation shows names of the approved engine oils for use in the TEDOM gas motors, recommended periodicity of oil replacement with respect to the oil group and character of operation.

2. ENGINE BREAKDOWN INTO SERVICE GROUPS WITH RESPECT TO OIL LOAD

2.1 MOBILE ENGINES USED IN THE MOTOR TRAFFIC COMBUSTING NATURAL GAS AND PROPANE-BUTANE FUELS

For the time being the gas engines are installed only in the city traffic buses combusting propane-butane or natural gas. Operation is included into one service group.

2.2 STATIONARY ENGINES – OPERATION OF EL. POWER PLANTS, COGENERATION UNITS AND PUMP DRIVES IN WASTE WATER TREATMENT PLANTS

Kind of operation	Characteristic features of the operation
H	Engines combusting biogas (sewage, landfill) in continuous operation, loaded permanently within the max. output range
M	Engines combusting natural gas (and/or city gas, PB) in continuous operation loaded predominantly or permanently within the max. output range and rated rpm. Also the engines combusting biogas (sewage, landfill), provided that the preset limit values are met (see the Notes) in continuous or discontinuous operation within the partial output range
L	Engines combusting natural gas (and/or city gas, PB) in continuous or discontinuous operation within the partial output range

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3. DETERMINED PERIODICITY FOR OIL REPLACEMENT**MOBILE ENGINES USED IN THE BUS TRAFFIC**

Engines of series M 1.2 A, B	
Periodicity (km) for oil group replacement	
1 P	2 P
25 000	35 000

STATIONARY ENGINES

Service group	Engines of series M 1.2 A, B	
	Periodicity (hours) for oil group replacement	
	1 P	2 P
H	300	400
M	700	900
L	900	1 100

4. NOTES

Determination of periodicity for oil replacement (in particular when combusting sewage, landfill biogas where precise data concerning gas composition are unavailable) can also be carried out by applying the tribotechnical methods. Limit values in the used oil for oil replacement are in this case as follows:

Kinematic viscosity at 40°C	min.-10, max.+15 [mm ² /s]
TBN (mg KOH/g)	>50% of fresh oil, min.>2 [mg KOH/g]
TAN	fresh oil value +2.5 [mg KOH/g]
pH	min. 4.5
Fe	max. 60 ppm
Pb	max. 20 ppm
Cu	max. 23 ppm
Si	max. 5 ppm
Glycol	max. 0.02%
Water	max. 0.2%

5. NOTES

Periodicity of replacement of the approved full-flow oil cleaners and/or approved paper elements of the full-flow oil cleaner are identical with oil changes.
 Cleaning of the centrifugal oil cleaner is also carried out during the preset periodicity. The approved types of full-flow oil filters and the approved oil filter elements are contained in the Regulation TEDOM 61-0-0281.1, item 7.

6. APPROVED ENGINE OILS

group 1P	
FUCHS TITAN GANYMET PLUS LA	SAE 40
MADIT GAS	SAE 15W - 40
MOL DYNAMIC GAS SUPER	SAE 15W - 40
MOGUL GAS	SAE 15W - 40
MOBIL PEGASUS 710	SAE 40
MOBIL PEGASUS 705	SAE 40
MOBIL MOBILGARD 450	SAE 40**
OMV MULTIGAS	SAE 15W - 40
OMV GHD 40	SAE 40
TEXACO GEOTEX HD40	SAE 40*
TEXACO GEOTEX PX40	SAE 40
TOP OIL Q8 MAHLER T	SAE 15W - 40
group 2P	
TOP OIL Q8 MAHLER HA	SAE 40

* not approved for engine operation with the catalytic converter – must be consulted with catalytic converter manufacturer

** oil is not suitable for the applications where natural gas is used as the fuel (high TBN level)