

# TA 1000-1109

Lubricating oil for type 2, 3, 4 and 6 GE Jenbacher engines

## Technical Instruction

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Τεχνικές οδηγίες

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GE imagination at work



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**TIP**



**Observance of the conditions of this Technical Instruction and performance of the activities described therein is the basis of safe and efficient plant operation.**

Non-observance of the conditions of this Technical Instruction and/or non-performance of the prescribed activities or any departure from the prescribed activities shall result in the loss of guarantee rights. This shall not be the case if the operator shows that although the Technical Instruction was observed, defects already existed at the time of handover or commissioning,

The activities and conditions defined in this Technical Instruction shall be performed and/or observed by the plant operator. This shall not apply if this Technical Instruction is expressly allocated to the area of responsibility of GE Jenbacher or a contractual agreement between the operator and GE Jenbacher provides for a different arrangement.

## 1 General

When selecting a lubricating oil suitable for use in GE Jenbacher gas engines, account must be taken of the engine's requirements and the requirements related to the fuel gas and - possibly - the exhaust gas treatment unit.

## 2 Effects on the lubricating oil and the oil service life

Fuel gases contain trace and accompanying elements which can cause deposits in the combustion chamber, acid attack of components and wear.

Experience shows that the following harmful substances have the greatest effects on the lubricating oil and the oil service life:

Chlorine, fluoride, sulphur cause the lubricating oil to acidify, and  
Organic silicon compounds cause wear.

Accordingly, fuel gases can be divided in the following classes:



- **Class A: Class A: natural gas and gases that permanently fulfil the limitations regarding trace and accompanying elements in acc. with TI 1000-0300, TI 1000-0301 and TI 1000-0302**  
 Natural, Associated Petroleum, mine gas, biogas (sulphur < 200 mg/10 kWh), special gases (thermoselect and steel plant gases).
- **Class B: gases containing acid-forming trace elements or trace elements that primarily affect the oil condition**  
 Biogas, sludge gas, wood gas and/or pyrolysis gases.
- **Class C: gases containing acid-forming trace elements and additional trace elements causing wear**  
 Landfill gas

Lubricating oil can lose its corrosion protection characteristics due to impurities in the fuel gas. The results of regular lubricating oil analyses are indicative of fuel gas impurities. In this respect, see also the following Technical Instructions:

TI 1000-0112

TI 1000-0099 A, B, C, D.

**Product names (in boldface)\*** are suitable for prolonged oil change intervals in GE Jenbacher gas engines.

**Mobil Pegasus 1005\*\*** can be assessed using increased oil limit values (see TI 1000-0099B).

*Product name (italic)\*\*\** refers to outdated product designations.




### 3 Lubricating oil requirements for GE Jenbacher type 2 and 3 engines

SAE 40

additives suitable for spark-ignition gas operation.

Release procedure successfully completed in acc. with TI 1000-0099A.

#### Selection overview

<b>A, B, C:</b>	Class fuel gas			
<b>[CAT]:</b>	with catalytic converter for formaldehyde conversion included in GE Jenbacher scope of supply			
	<b>A</b>	<b>B</b>	<b>C</b>	<b>[CAT]</b>
	Pegasus 705 Pegasus 805 <b>Pegasus 1005**</b>	Pegasus 710	Pegasus 610	Pegasus 705
	Energas NGL	Energas NGL Energas LFM	Energas LFM	Energas NGL
	Duratec L	Duratec L Duratec MX	Duratec MX	Duratec L



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	A	B	C	[CAT]
	Mysella S3 N 40 ( <i>Mysella LA***</i> ) <b>Mysella S5 N 40*</b> ( <i>Mysella XL***</i> )	Mysella S3 S 40 ( <i>Mysella MA***</i> )	Mysella S3 S 40 ( <i>Mysella MA***</i> )	Mysella S3 N 40 Mysella S5 N ( <i>Mysella XL***</i> )
	<b>Sentron LD 5000*</b>			
	Geotex LA 40 HDAX 5200 Low Ash Gas Engine Oil SAE 40 ( <i>HDAX LA***</i> )	Geotex LF 40 HDAX 5500 LFG ( <i>HDAX LFG***</i> ) Gas Engine Oil SAE 40 HDAX 6500 LFG Gas Engine Oil SAE 40	HDAX 5500 LFG Gas Engine Oil SAE 40 ( <i>HDAX LFG***</i> ) HDAX 6500 LFG Gas Engine Oil SAE 40	HDAX 5200 Low Ash Gas Engine Oil SAE 40 ( <i>HDAX LA***</i> )
	Nateria MH 40	Nateria ML 406 Nateria MJ 40		Nateria MH 40
	Titan Ganymet LA <b>Titan Ganymet Ultra*</b>	Titan Ganymet Plus Titan Ganymet Ultra	Titan Ganymet	Titan Ganymet LA Titan Ganymet Ultra
	Troncoil Gas 40 Troncoil Gas JGC 40			Troncoil Gas JGC 40
	LEG 40	Gas HD 40		
		AUTOL BGJ 40		
	Mahler G4	Mahler HA Mahler G5	Mahler HA Mahler G5	



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	A	B	C	[CAT]
	Long Life Gas 4005* Super Motor Gas 4005			
	Mogas G4	Mogas AC-40 Mogas G5	Mogas AC-40 Mogas G5	
	Mahler G4	Mahler HA Mahler G5	Mahler HA Mahler G5	
	MG 40 Extra LA MG 40 Extra Synth*	MG 40 Extra Plus		MG 40 Extra LA MG 40 Extra Synth
	Burian Light SAE 40	Burian SAE 40		Burian Light SAE 40
	Methaflexx NG Methaflexx HC Premium*	Methaflexx HC plus Methaflexx HC Premium Methaflexx GE-M Methaflexx MD	Methaflexx D Methaflexx GE-M	Methaflexx NG Methaflexx HC Premium
	Divinol Spezial Typ 4 SAE 40	Divinol Spezial HA SAE 40	Divinol Spezial HA SAE 40	
	Gasmotorenöl LA SAE 40	Gasmotorenöl HA SAE 40		
		Gasmotorenöl HGM SAE 40		



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	A	B	C	[CAT]
	GN LX4005			GN LX4005
		Famagas HA 40		
		Mol GMO MA 40		
		Geoterm MA SAE 40		
	NOC ENEOS M40(M)			
		Mihagrün 40		
	GEO LA 40			
		NGEO 2500 MA		
	Supreme DDO Low Ash Stat. GEO SAE 40			

## 4 Lubricating oil requirements for GE Jenbacher type 4 engines (version B)

SAE 40









additives suitable for spark-ignition gas operation.



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Release procedure successfully completed in acc. with TI 1000-0099A.

### Selection overview

<b>A, B, C:</b>	Class fuel gas			
<b>[CAT]:</b>	with catalytic converter for formaldehyde conversion included in GE Jenbacher scope of supply			
	<b>A</b>	<b>B</b>	<b>C</b>	<b>[CAT]</b>
	Pegasus 705 Pegasus 805 <b>Pegasus 1005**</b>	Pegasus 705 Pegasus 805	Pegasus SR Pegasus 605	Pegasus 705
	Energas NGL	Energas NGL		Energas NGL
	Duratec L	Duratec L		Duratec L
	HDAX 5200 Low Ash Gas Engine Oil SAE 40 ( <i>HDAX LA***</i> )	HDAX 6500 Low Ash Gas Engine Oil SAE 40	HDAX 6500 Low Ash Gas Engine Oil SAE 40	HDAX 5200 Low Ash Gas Engine Oil SAE 40 ( <i>HDAX LA***</i> )
	<b>Sentron LD 5000*</b>			
	<b>Titan Ganymet Ultra*</b> Titan Ganymet LA			Titan Ganymet Ultra Titan Ganymet LA
	Mysella S3 N 40 ( <i>Mysella LA***</i> ) <b>Mysella S5 N 40 *</b> ( <i>Mysella XL***</i> )	Mysella S3 N 40 ( <i>Mysella LA***</i> )	Mysella S3 N 40 ( <i>Mysella LA***</i> )	Mysella S3 N 40 ( <i>Mysella LA***</i> ) Mysella S5 N 40 ( <i>Mysella XL***</i> )
	NOC Eneos M40(M)			



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	A	B	C	[CAT]
	Mahler G4	Mahler G4 Mahler G5	Mahler G5	
	Long Life Gas 4005* Super Motor Gas 4005			
	Mogas G4	Mogas G4 Mogas G5	Mogas G5	
	Mahler G4	Mahler G4 Mahler G5	Mahler G5	
	MG 40 Extra Synth*			MG 40 Extra Synth
	Methaflexx HC Premium*			Methaflexx HC Premium
	Nateria MH 40	Nateria MH 40	Nateria MH 40	Nateria MH 40
	Troncoil Gas JGC 40	Troncoil Gas JGC 40	Troncoil Gas JGC 40	Troncoil Gas JGC 40
	GEO LA 40			
	Gas LEG 40 Gas Leg XDI 40			





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	A	B	C	[CAT]
	Divinol Spezial Typ 4 SAE 40	Divinol Spezial Typ 4 SAE 40		
	GN LX4005			GN LX4005
	Supreme DDO Low Ash Stat. GEO SAE 40			

## 5 Lubricating oil requirements for GE Jenbacher type 4 engines (as from version C)




SAE 40

additives suitable for spark-ignition gas operation.

Release procedure successfully completed in acc. with TI 1000-0099A.




### Selection overview

<b>A, B, C:</b>	Class fuel gas
<b>[CAT]:</b>	with catalytic converter for formaldehyde conversion included in GE Jenbacher scope of supply

	A	B	C	[CAT]
	Pegasus 705 Pegasus 805			Pegasus 705
	<b>Myselfa S5 N 40*</b> (Myselfa XL ***)			Myselfa S5 N 40 (Myselfa XL ***)
	Sentron LD 5000*			



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	A	B	C	[CAT]
	HDAX 5200 Low Ash Gas Engine Oil SAE 40 (HDAX LA <sup>***</sup> )			HDAX 5200 Low Ash Gas Engine Oil SAE 40 (HDAX LA <sup>***</sup> )
	Long Life Gas 4005*			
	GN LX4005			GN LX4005

## 6 Lubricating oil requirements for GE Jenbacher type 6 engines (version E)





SAE 40

additives suitable for spark-ignition gas operation.

Release procedure successfully completed in acc. with TI 1000-0099A.

### Selection overview

<b>A, B, C:</b>	Class fuel gas
<b>[CAT]:</b>	with catalytic converter for formaldehyde conversion included in GE Jenbacher scope of supply

	A	B	C	[CAT]
	Pegasus 705 Pegasus 805 Pegasus 1005*	Pegasus 705 Pegasus 805	Pegasus SR Pegasus 605	Pegasus 705
	Energas NGL	Energas NGL	Energas NGL	Energas NGL
	Duratec L	Duratec L	Duratec L	Duratec L
	Mysella S3 N 40 (Mysella LA <sup>***</sup> ) Mysella S5 N 40 * (Mysella XL <sup>***</sup> )	Mysella S3 N 40 (Mysella LA <sup>***</sup> )	Mysella S3 N 40 (Mysella LA <sup>***</sup> )	Mysella S3 N 40 (Mysella LA <sup>***</sup> ) Mysella S5 N 40 (Mysella XL <sup>***</sup> )








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	A	B	C	[CAT]
	Sentron LD 5000*			
	HDAX 5200 Low Ash Gas Engine Oil SAE 40 (HDAX LA***)	HDAX 6500 LFG Gas Engine Oil SAE 40	HDAX 6500 LFG Gas Engine Oil SAE 40	HDAX 5200 Low Ash Gas Engine Oil SAE 40 (HDAX LA***)
	Methaflexx HC Premium*			Methaflexx HC Premium
	Nateria MH 40	Nateria MH 40	Nateria MH 40	Nateria MH 40
	Titan Ganymet Ultra* Titan Ganymet LA			Titan Ganymet Ultra Titan Ganymet LA
	Troncoil Gas JGC 40	Troncoil Gas JGC 40	Troncoil Gas JGC 40	Troncoil Gas JGC 40
	Mahler G4	Mahler G4 Mahler G5	Mahler G5	
	Long Life Gas 4005* Super Motor Gas 4005			
	Mogas G4	Mogas G4 Mahler G5	Mahler G5	
	Mahler G4	Mahler G4 Mahler G5	Mahler G5	



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	A	B	C	[CAT]
	MG 40 Extra Synth*			MG Extra Synth
	NOC ENEOS M40(M)			
	Gas LEG 40			
	Divinol Spezial Typ 4 SAE 40	Divinol Spezial Typ 4 SAE 40		
	GN LX4005			GN LX4005

## 7 Lubricating oil requirements for GE Jenbacher type 6 engines (as from version F)



SAE 40

additives suitable for spark-ignition gas operation.

Release procedure successfully completed in acc. with TI 1000-0099A.





### Selection overview

<b>A, B, C:</b>	Class fuel gas
<b>[CAT]:</b>	with catalytic converter for formaldehyde conversion included in GE Jenbacher scope of supply

	A	B	C	[CAT]
	Pegasus 705 Pegasus 805			Pegasus 705
	<b>Mysella S5 N 40*</b> (Mysella XL ***)			Mysella S5 N 40 (Mysella XL ***)



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	A	B	C	[CAT]
	Sentron LD 5000*			
	HDAX 5200 Low Ash Gas Engine Oil SAE 40 (HDAX LA***)			HDAX 5200 Low Ash Gas Engine Oil SAE 40 (HDAX LA***)
	Long Life Gas 4005*			
	GN LX4005			GN LX4005

## 8 Revision code

### Revision history

Index	Date	Description/Revision summary	Creator <i>Auditor</i>
11	02.04.2013	<p>Generelle Überarbeitung von Punkt 1.6 / General revision of point 1.6</p> <p>E-Freigaben / E-Release: Chevron HDAX 6500 LFG BR 2/3/4/6 [E] in B &amp; C, OMV Gas LEG XDI BR 2/3/4/6 [E] in A;</p> <p>Freigaben/Release: Avia Gasmotorenöl LA BR 2/3 in A; Brad Penn Supreme DDO LA BR 3/4 in A; Cepsa Troncoil Gas JGC 40 BR 2/3 in A, BR 4/6(E) in A,B &amp; C; Nils Burian Light BR 2/3 in A;</p> <p>Namensänderung / Rename of products: „Shell Mysella“ &amp; Chevron/ Tecaxo/ Caltex</p>	<b>Provin</b> <i>Anderson</i>
10	06.09.2012	Ergänzung rechtlicher Hinweis/ legal notice added	<b>Provin</b> <i>Spieker</i>
9	10.05.2012	<p>Type 2,3 Produkt "Geterm MA SAE40" Class B fuel gas.</p> <p>Type 4,6 Produkt "Mysella XL" [CAT] fuel gas.</p> <p>Type 6 E-version Produkt "Pegasus 1005" Class A fuel gas.</p>	<b>Bilek</b> <i>Chvatal Susanne</i>
8	24.04.2012	<p>type 2,3,4,6 Produkt "Fuchs" Class A fuel gas, type 2,3,4,6 Produkt "Q8" Class B,C fuel gas, type 2,3,4,6 Produkt "ROLOIL" Class BC fuel gas, type 2,3,4,6 Produkt "ADDINOL" Class A fuel gas, type 2,3,4,6 Produkt "TEC-TROL" Class A fuel gas, type 2,3,4,6 Produkt "galp energia" Class A, [CAT] fuel gas, type 2,3 Produkt "olfino" Class B fuel gas, type 2,3 Produkt "MOL" Class B fuel gas.</p>	<b>Bilek</b> <i>Chvatal Susanne</i>



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## Revision history

7	30.05.2011	Pos. 3 Treibgas Klasse A / Point 3 Class A fuel gas Produkt / Product "Fuchs, Repsol, Tectrol, Total und/and Adinol". Treibgas Klasse B / Class B fuel Produkt / Product "Fuchs und/and Tectrol". Pos. 4, 5 Treibgas Klasse A / Class A fuel gas. Produkt / Product "Fuchs, Repsol, Tectrol, Total und/and Adinol". Treibgas Klasse B, C / Class B, C fuel Produkt / Product "Total".	<b>Bilek</b> <i>Chvatal Susanne</i>
6	21.02.2011	Pos. 3 Treibgas Klasse B / Point 3 Class B fuel gas. Produkt / Product Fuchs.	<b>Bilek</b> <i>Chvatal Susanne</i>
5	30.10.2010	BR 2,3 Produkt "Fuchs" Treibgasklasse B / BR 4,6 Produkt "Mobil" Treibgasklasse C / type 2, 3 Product "Fuchs" Class B fuel gas / type 4, 6 Product "Mobil" Class C fuel gas.	<b>Bilek</b> <i>Chvatal Susanne</i>
4	15.10.2010	Entwicklungsfreigaben/Development release: 071_2010-NOC ENEOS M40(M) BR/type 6.	<b>Bilek</b> <i>Chvatal Susanne</i>
3		Treibgasklasse A/Class A fuel gas. 059_2010-Cenex, NGE0 2500 MA BR/type 2,3 Treibgasklasse B/Class B fuel gas.	
2		087_2010 - OMV Gas LEG 40 BR/type 2,3,4,6 Treibgasklasse A/Class A fuel gas. Freigabe - Mittlg / release No. 035/2010 Neu/new: Zeller/Gmelin, AVIA, Eurolub.	
1	26.05.2010	Umstellung auf CMS / Change to <b>C</b> ontent <b>M</b> anagement <b>S</b> ystem ersetzt / replaced Index: <b>c</b>	<b>Schartner</b> <i>Giese</i>

