

Service Bulletin

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Engine type

All

Subject

**Oil management
Importance of oil monitoring according GE guidelines**



SB-107 | February 24, 2017

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The Service Bulletin SB-107 emphasizes the importance of monitoring the oil of Jenbacher gas engines according to the GE guidelines over the entire engine lifetime. The document describes which Technical Instructions are relevant for the oil monitoring, including a short summary of each Technical Instruction and a list of oil labs suitable for analyzing the used engine oil.

AFFECTED ENGINES / SCOPE OF THIS BULLETIN

Jenbacher gas engines of all types and versions.

DESCRIPTION OF THE CONTENT / PURPOSE OF THIS LETTER

Lube oil is both a design element and spare part. Due to engine operation and as a function of the lube oil to protect and maintain safe and reliable operation of the engine, oil properties change over time, decrease in functionality and must be changed. Although oil life time can be predicted to a high degree, various factors influence functionality and may request oil change or maintenance work at an unexpected time.

To protect the engine against a potential failure caused by unsuitable oil condition GE requests oil monitoring over the entire engine life time. Non-adherence to or correct reaction to oil analysis results and oil management can lead to increased component wear and reduced service life of the engine. During engine operation if a deviation to normal oil behavior and life based on site operational trends is experienced then further guidance/support should be sought from GE Jenbacher to determine the cause for such. Even without reaching the absolute limits as detailed in the instructions below, any abnormal increasing trends (for example wear materials) observed via the oil analysis should be investigated further to determine the cause and the necessary corrective actions taken.

• Relevant Technical Instructions regarding oil monitoring

- **TA 1000-1109: Lubricating oil for Types 2, 3, 4 and 6 engines**
- **TA 1000-1108: Lubricating oil for Type 9 engines**
These instructions describe which oils are suitable and released for Jenbacher gas engines for specific fuel gases. The instructions are sectioned in engine types and versions. In each section, all suitable products are listed assigned to fuel classes.
- **TA 1000-0099B: Limit levels for used oil in GE Jenbacher gas engines**
This instruction describes which oil condition parameters, metal, contaminations- and additive elements must be analyzed at each single used oil sample.
For each parameter guideline or standard, the unit and limit is documented.
A separate section provides information about each single parameter to be analyzed, describes how to interpret the results and what are the potentially necessary corrective actions.
Additionally, this instruction provides guidelines which engine and operating data must be documented in the used oil report to enable the customer to interpret used oil analyses properly.
- **TA 1000-0099C: Procedure for testing the oil service life specific to the plant**
GE does not guarantee fixed oil change intervals. Oil is changed on condition (see TA 1000-0099B).
This instruction describes which oil sampling interval is requested for natural, bio- and landfill gas, during the first oil filling and further operation.
- **TA 1000-0112: Taking lubricating oil samples / lubricating oil sampling protocol**
This instruction describes in which way oil samples are taken. Further it describes in detail where the sampling points are located at the various engine types.
A separate section describes which information is mandatory to document at the sample label.



- **Oil analyses labs for Jenbacher engine's oil monitoring**

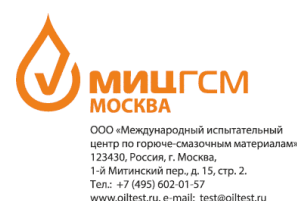
- **Oil suppliers monitoring systems**

Most of the major oil suppliers provide their own oil monitoring system for gas engine oils. Only for the supplier's trade mark systems oil supplier guarantee quality control and correct analyses results. It therefore the recommendation of GE Jenbacher that such oil sampling analysis programs are used. GE has very good experience with below listed oil suppliers monitoring systems:



- **Oil supplier independent analyses labs**

Additionally, to above oil supplier's monitoring systems, GE has good experience with below listed independent labs. It is therefore also the recommendation of GE Jenbacher that such oil sampling analysis programs are used:





RELEVANT DOCUMENTS

When working on GE Jenbacher modules, all applicable local regulations must of course be observed in addition to our documentation. We would particularly like to emphasise observation of the following documents in connection with this Service Bulletin:

- Technical Instruction TA 1000-0099B: Limit levels for used oil in GE Jenbacher gas engines
- Technical Instruction TA 1000-0099C: Procedure for testing the oil service life specific to the plant
- Technical Instruction TA 1000-1108: Lubricating oil for Type 9 engines
- Technical Instruction TA 1000-1109: Lubricating oil for Types 2, 3, 4 and 6 engines
- Technical Instruction TA 1000-0112: Taking lubricating oil samples / lubricating oil sampling protocol
- Technical Instruction TA 1100-0111: General conditions – Operation and maintenance
- Technical Instruction TA 2300-0005: Safety regulations

REVISION CODE

| INDEX | DATE | DESCRIPTION / REVISION SUMMARY |
|-------|---------------|--------------------------------|
| 01 | Feb. 24, 2017 | First version of this document |

Table 01: Revision history