



TA 1300-0007

Technical Instruction

Service frame



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1 Area of application

This Technical Instruction (TA) applies to the following Jenbacher Gas Engines:

- Type 3 engines
- Type 4 engines

2 Purpose

This Technical Instruction describes how to use the service frame.

3 Safety information

DANGER

**Danger to persons from defective lifting equipment!**

Defective lifting equipment can shear or fracture in use and pose a danger to persons.

- Do not **use** defective equipment and report it to the operator, EHS and the supervisor without delay.
- Defective lifting equipment **must** be disposed of in a proper and environmentally sound manner.
- Check lifting equipment (gantry cranes, chain hoists, machine jacks, chains, ropes, slings, lifting brackets, etc.) for adequate capacity, visible defects and current valid certification (test date) before use.

⚠ WARNING**Personal injury**

Failure to use personal protective equipment and comply with safety instructions or employee protection information may lead to personal injury.

- Wear the relevant personal protective equipment (PPE).
- Observe the safety instructions as per TA 2300-0005.
- Observe the employee protection information as per TA 2300-0001.

⚠ WARNING**Activities entailing potential risks!**

The safety of persons is put at risk if activities involving potential risk are not subjected to a risk analysis

- The **risk analysis** specially prepared for these maintenance activities must be followed for all the activities here in order to remove the general risks. Risk analyses can be found under information.jenbacher.com - Unsere Abteilungen - Service - Service Rubrik - EHS - Risikoanalysen (Our departments - Service - Service heading - EHS - Risk analyses).
- To avoid risks associated with the activity, the **Short Duration Safety Checklist**, which must be carried by every service staff member engaged in work in the field, must be filled in.

⚠ WARNING**Danger of injury due to heavy loads!**

The lifting of loads weighing more than 22 kg can result in injuries.

- Components with a weight of more than 22 kg may only be lifted by two persons or with a crane!

4 Additional information



Servicing work including replacing the main bearings can be carried out with the aid of the service frame if no normal module frame is available.

The frame with the part no. 9024525 must be used for Type 3 engines.

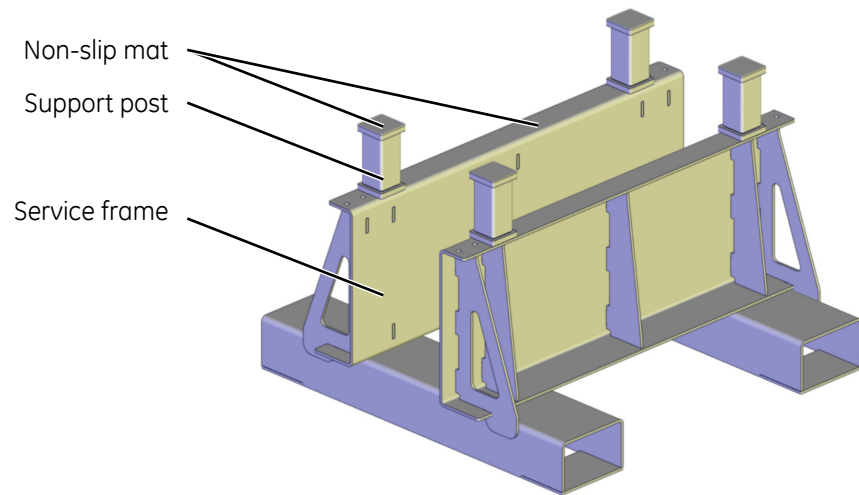
The frame with the part no. 9024529 must be used for Type 4 engines.

Requirements:

In order to carry out this work, the following requirements must be met:

- A lifting device capable of lifting the loads that occur:
Weight of the service frame + engine weight
 - 500 kg service frame for Type 3 engines
 - 540 kg service frame for Type 4 engines
 - Engine weight as per module drawings in the description and operation documents
- Flatness requirements and the base for setting up the service frame according to **TI 1000-0041** must be observed.

General view:



Relevant documents:

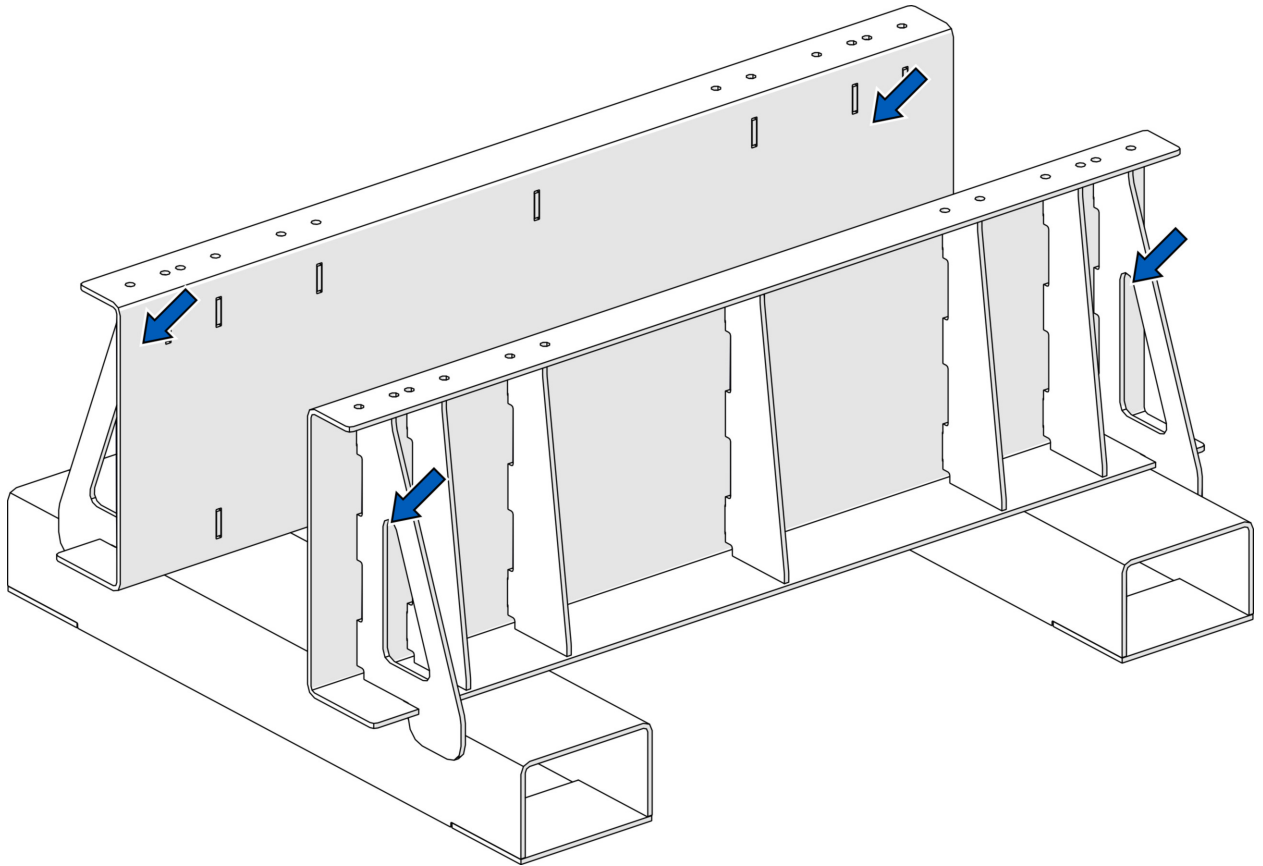
TA 1000-0041 - Requirements on the installation surface for Jenbacher plants

TA 1000-0062 - Lifting of GE Jenbacher Engines - Type 3, 4 and 6 engines shortblock and longblock

TI 2300-0001 – Employee protection

TI 2300-0005 – Safety instruction

5 Slinging points on the service frame



The service frame must be lifted with one sling at each of the 4 recesses in the outer strut.

6 Placing the engine in the service frame

The engine must rest completely on the frame for all service work, apart from work on the main bearings, i.e. it must not rest on the support posts.

- Lift the engine as per **TI 1000-0062**.



TA 1000-0062 - Lifting of GE Jenbacher Engines - Type 3, 4 and 6 engines shortblock and longblock

- An anti-slip mat must be fitted to the service frame.
- Check the non-slip mat for damage.
- Replace damaged non-slip mats.

**⚠ DANGER****Injury to persons due to falling parts**

If the engine is not correctly placed on the service frame, it can tilt and fall down.

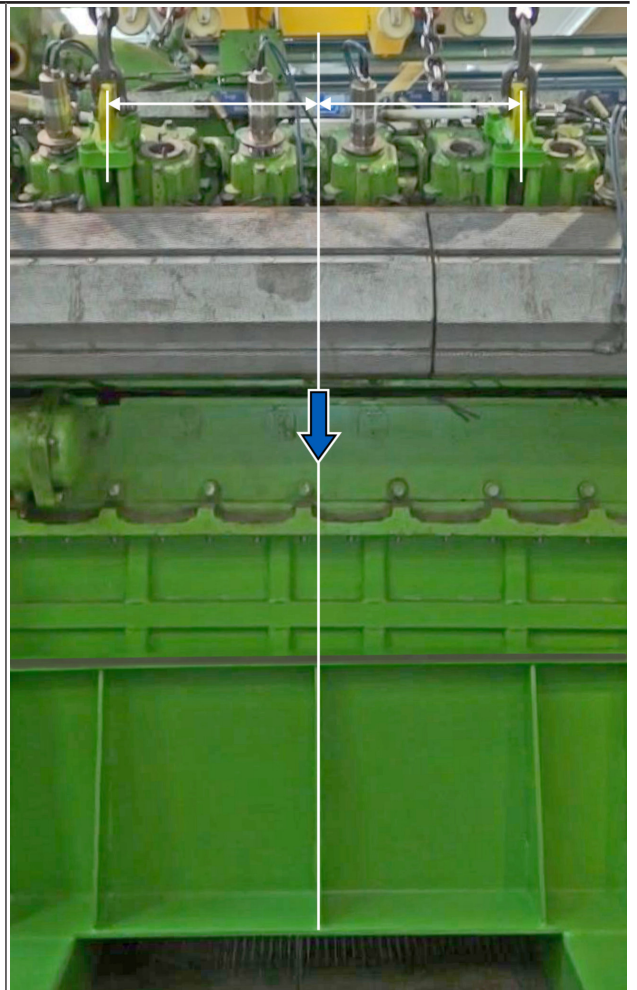
- The centre of gravity is between the two lifting lugs and must be positioned exactly above the middle strut.
- The engine must sit exactly on the middle of the frame.



The centre of gravity is between the two lifting lugs and must be positioned exactly above the middle strut.

The engine must sit exactly in the middle of the frame when viewed from the side.

- Introduce the engine into the service frame and lower it until it sits flush over its entire length.



7 Jacking up the engine

The engine may only be jacked up during work on the main bearings. When all the work on the main bearings has been completed, the engine must be lowered down again.

Inspect the non-slip mat on the post

- Check the non-slip mat for damage.
- Replace damaged non-slip mats.



Inserting the posts

WARNING



Injury to persons due to engine falling down

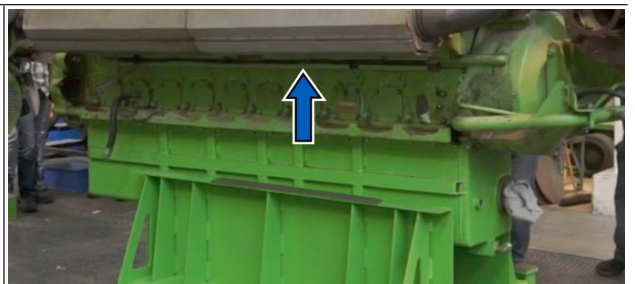
If work is carried with the engine in the raised position, e.g. with the oil pan bolts removed, the engine can fall down.

- Place 2 support posts on each side of the service frame between the service frame and the engine.

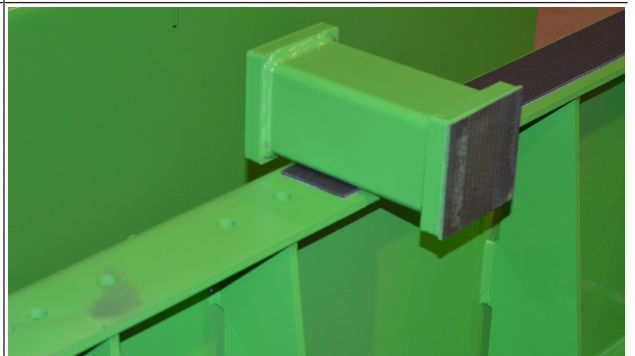
- The oil pan bolts behind the posts must be removed before lowering the engine so as to allow the oil pan to be drained later. During reassembly, these bolts must be refitted later.
- Lift the engine approx. 300 mm as per **TI 1000-0062**.



TA 1000-0062 - Lifting of GE Jenbacher Engines - Type 3, 4 and 6 engines shortblock and longblock



- If work is carried out with the engine in the raised position, the 4 posts must be placed between the service frame and the engine.



(Photo for information only)

- Place the posts at the corresponding positions (4-off):

Type 3 engines:

- ① Mounting position for the support posts for J316 and J320 engines
- ② Mounting position for the support posts for J312 engines

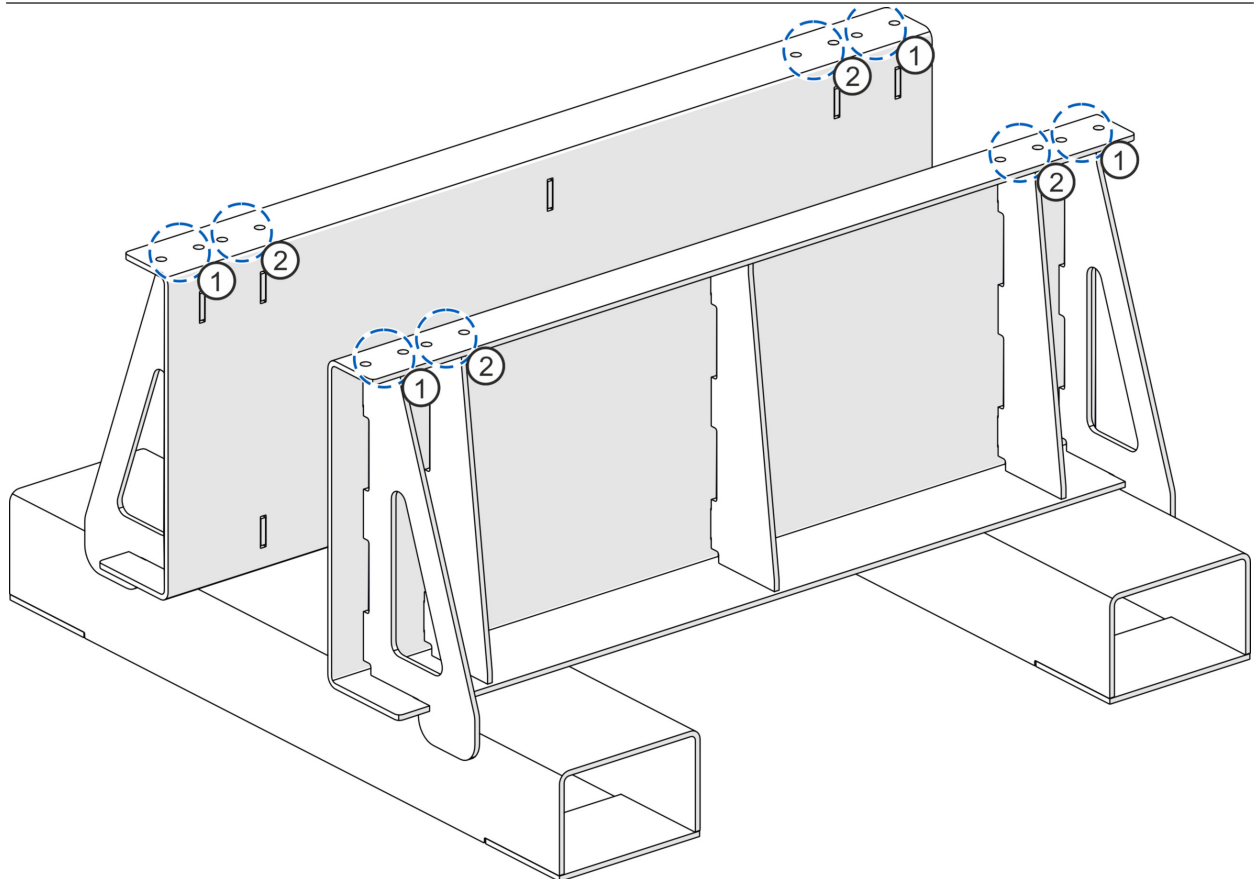
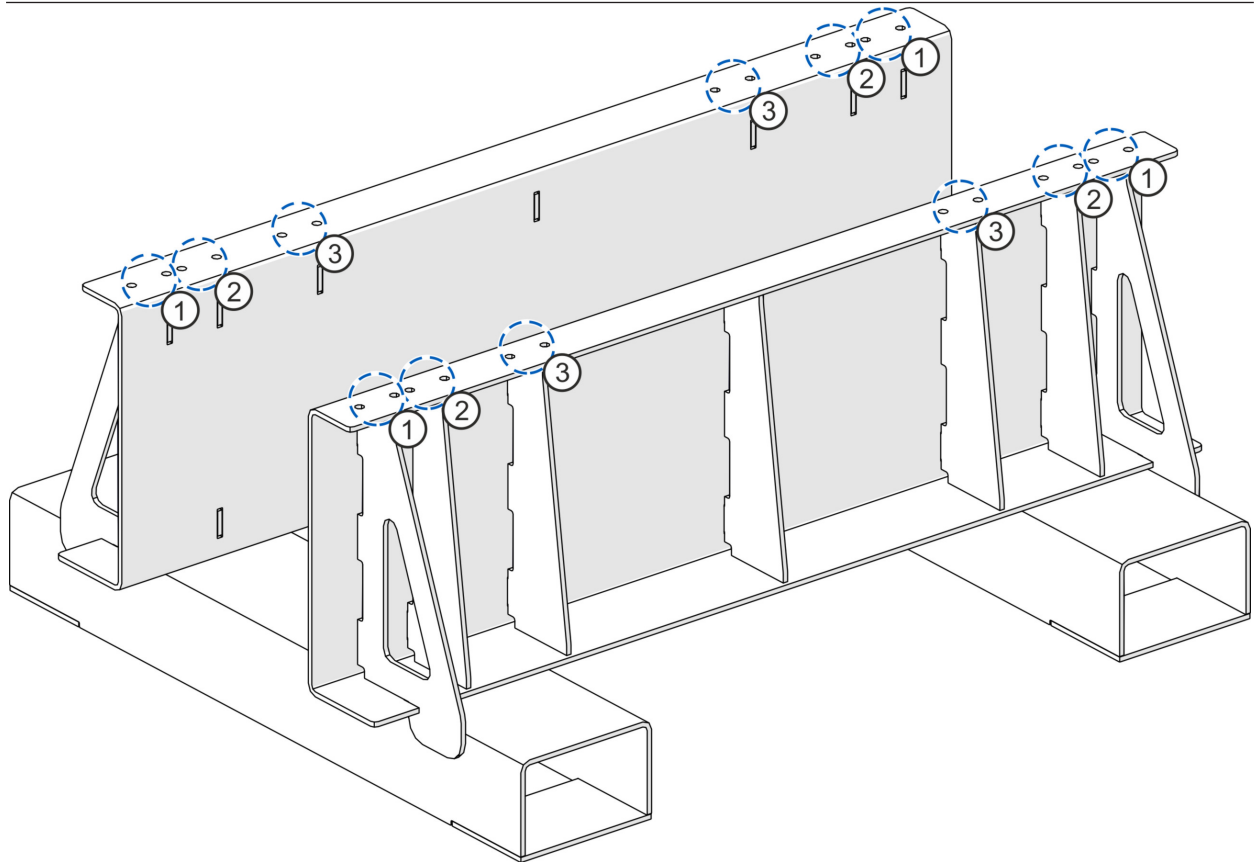


Illustration for information only

Type 4 engines:

- ① Mounting position for the support posts for J420 engines
- ② Mounting position for the support posts for J416 engines
- ③ Mounting position for the support posts for J412 engines



- Fasten the support posts with 2 spring washers and hexagon-head bolts each.



⚠ DANGER



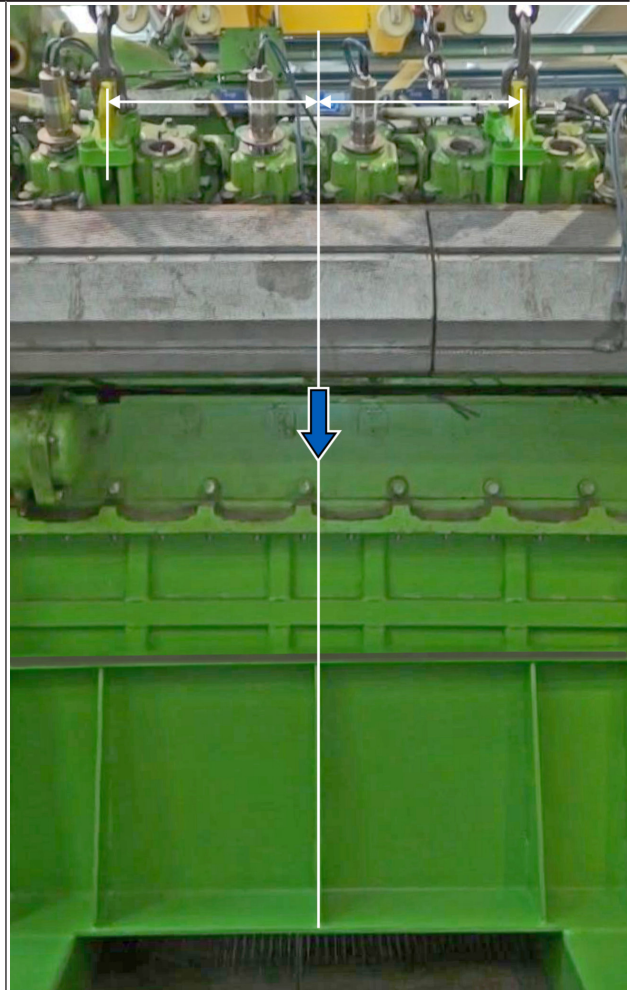
Injury to persons due to falling parts

If the engine is not correctly placed on the support posts, it can tilt and fall over.

- The centre of gravity is between the two lifting lugs and must be positioned exactly above the middle strut.
- The engine must sit halfway across each support post. See the information below.



The centre of gravity is between the two lifting lugs and must be positioned exactly above the middle strut.



Position the engine **halfway across** the support posts.

- Slowly lower the engine down on to all four support posts as evenly as possible. The engine must not tilt in any way.



8 Transporting the engine on the service frame



The engine may **only** be transported on the service frame with a **lift truck**.

DANGER



Injury to persons due to falling parts during transport by a lift truck

If the engine is transported by a lift truck, it may fall off in the event of careless driving.

- Drive according to the conditions when transporting an engine on a lift truck.

If the engine is transported on a service frame, the frame must be properly lashed to the engine.

There are two different ways of lashing the engine to the service frame.

Option 1:

Lash the engine to the service frame by the 4 lifting lugs and the 4 lifting points on the service frame with 4 lashing straps, see ⇒ Slings points on the service frame.

Option 2:

Lash the engine to the 4 lifting points on the service frame with 2 lashing straps over the engine, see ⇒ Slings points on the service frame.

9 Revision code

Revision history			
Index	Date	Description / Revision summary	Expert Auditor
2	09.04.2019	GE durch INNIO ersetzt / GE replaced by INNIO	Opoku <i>Pichler R.</i>
1	21.09.2016	Erstausgabe / First issue	Geier T., Dengg J., Kendlbacher J. <i>Winterle H.</i>