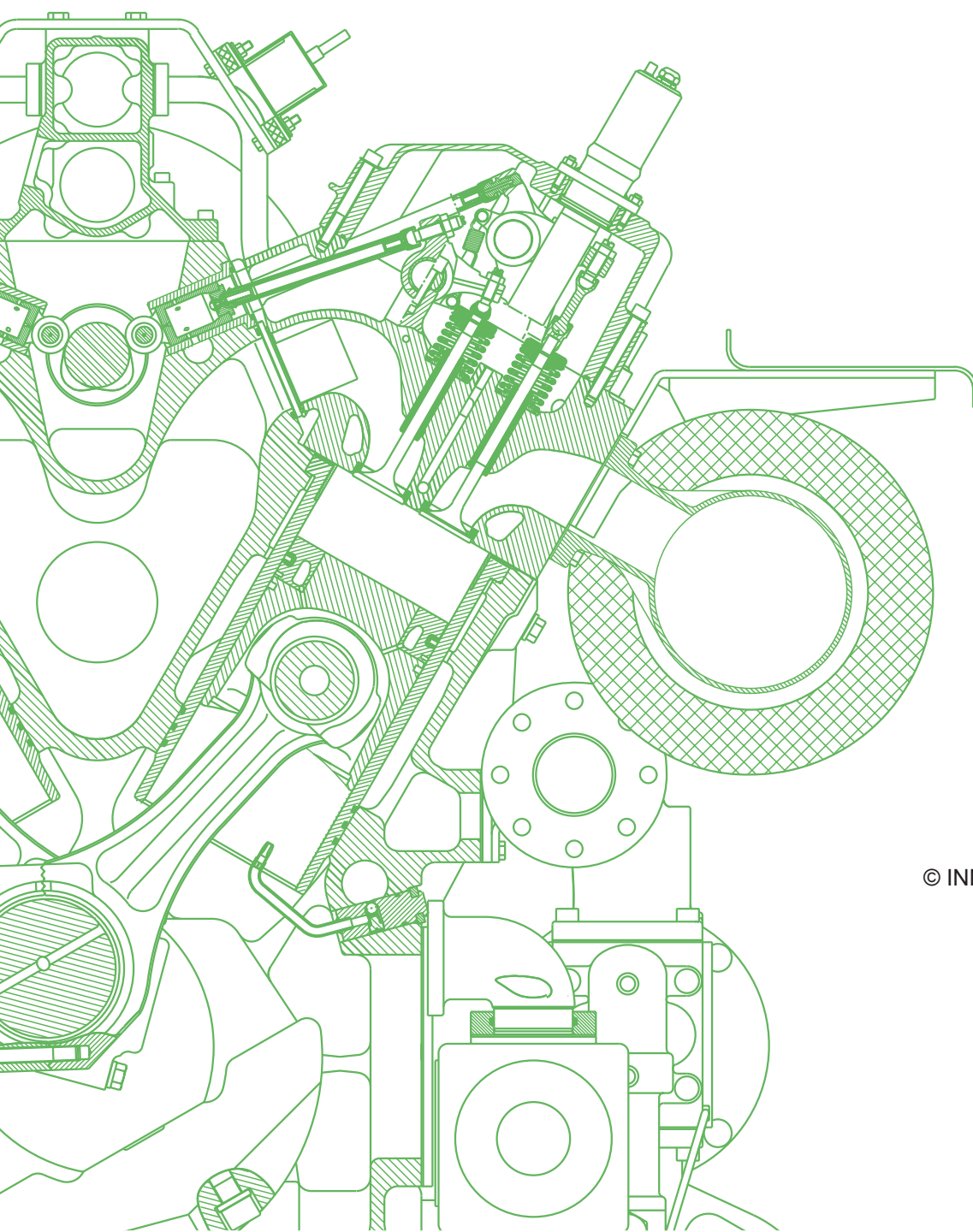




W 8035 A9

Maintenance Instruction

Battery



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The target recipients of this document are:

Customers, distribution partners, service partners, commissioning partners, subsidiaries/branches, Jenbach location

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1 Scope

This Maintenance Instruction (W) applies to the following Jenbacher Gas Engines:

- Type 9 engines

2 Purpose

This Maintenance Instruction (W) lays down the maintenance interval and describes the following activities:

- ⇒ Replace the buffer battery in the switch cabinet (+ AUXC)
- ⇒ Replace the buffer battery between +ENGIA/ +ENGIB
- ⇒ Replace the buffer battery in the JW-Module
- ⇒ Replace the buffer battery in the TCA-Module

3 Maintenance interval

Maintenance work	Maintenance interval	Carried out by ^{*)}
⇒ Replace the buffer battery in the switch cabinet (+ AUXC)		K
⇒ Replace the buffer battery between +ENGIA/ +ENGIB	5 years	K
⇒ Replace the buffer battery in the JW-Module	5 years	K
⇒ Replace the buffer battery in the TCA-Module	5 years	K

Valid for:

- Type 9: Maintenance schedule V

***) Carried out by** This column defines who carries out the maintenance work.

K	This activity is to be carried out by the customer, INNIO or a company selected and authorised by INNIO to carry out this work.
INNIO	This activity is to be carried out by INNIO or a company selected by INNIO authorised to carry out this work.

4 Safety information**⚠ DANGER****Danger to persons from electrical voltage!**

The switchgear cabinets are live.

- Switch off the power supply before opening.
- Secure it against being switched on again.

⚠ WARNING**Dangerous voltage**

- Switch off the circuit breaker before starting the work.
- Only use insulated tools (open-ended wrench, adjustable wrench, screwdriver).

**⚠ WARNING****Danger from unauthorised restarting**

Serious injuries such as cutting, crushing, severing or shearing of body parts due to unintentional contact with rotating or moving machine parts.

- Shut down the engine as described in TA 1100-0105.
- Secure the engine against unauthorised restarting in accordance with TA 2300-0010.



⚠ 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**Danger of short-circuit!**

Touching the terminals of the batteries with metallic objects can cause a short-circuit.

- Do not touch the terminals with metallic objects or lay metal tools down on them.
- Protect the battery terminals against physical contact with terminal caps.

5 Additional information**Relevant documents:**

TA 1100-0105 – Engine shut-down

TA 2300-0001 – Employee protection

TA 2300-0005 – Safety instruction

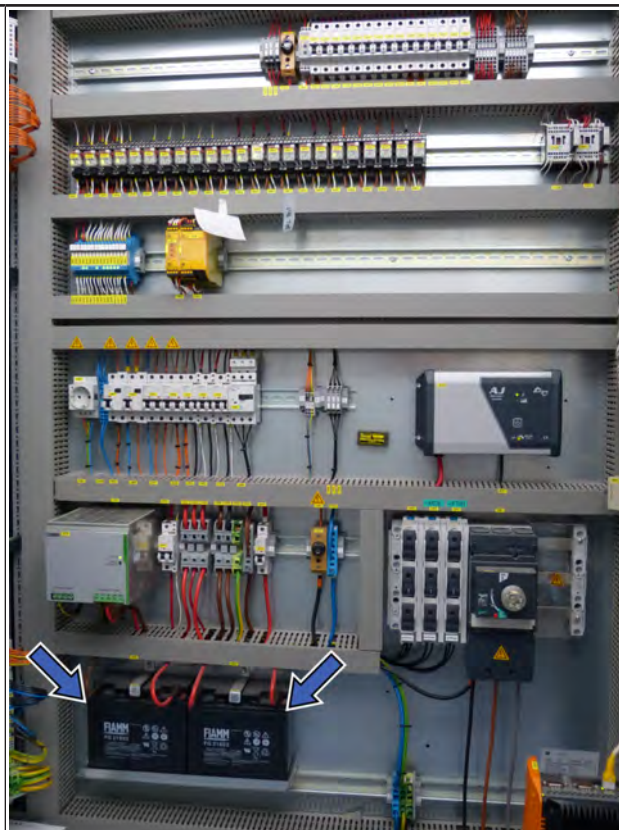
TA 2300-0010 – Guidelines for using the LOTO kit

6 Work steps

6.1 Replace the buffer battery in the switch cabinet (+ AUXC)



Buffer batteries used: 2 FIAMM FG 21803 12 V 18 Ah



⚠ DANGER

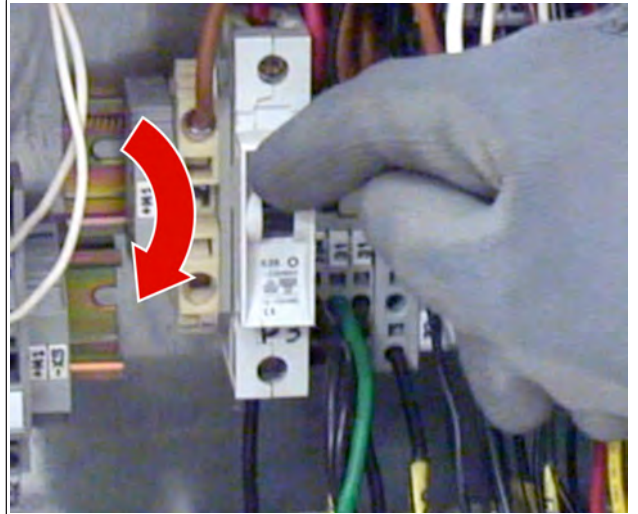


Danger to persons from electrical voltage!

The switchgear cabinets are live.

- Switch off the power supply before opening.
- Secure it against being switched on again.

- Switch the main circuit breakers for the buffer and starter batteries to OFF.
- Isolate the battery chargers at the main automatic circuit breaker(s) or switch off the main breaker for auxiliary equipment. See the plant circuit diagram for this.



- Secure the main circuit breakers against being switched back on.



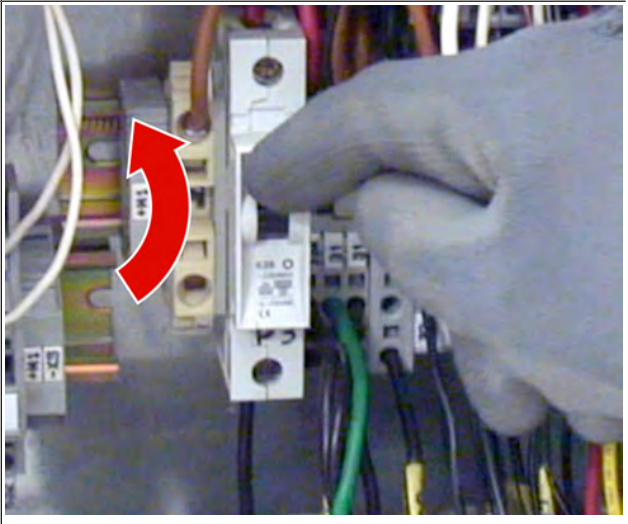


- Check that there is no current. This can be tested at the starter motor battery leads with a clamp-on ammeter for direct current.

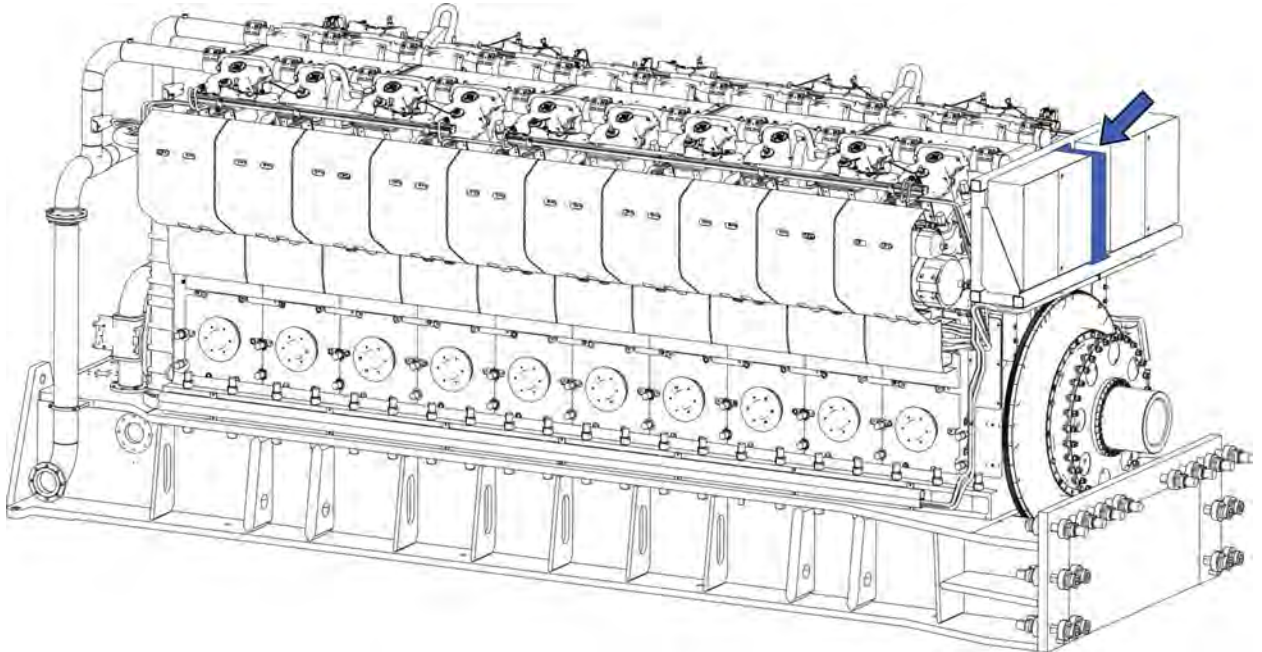


- Remove the connections to the batteries using an insulated open-ended wrench.



<ul style="list-style-type: none"> Remove the protective caps from the connections. Disconnect the negative terminal ①. Disconnect the positive terminal ②. Insulate the battery terminals with terminal caps or suitable self-adhesive tape. Undo the 2 bolts of the holding-down brackets ③. Remove the holding-down brackets with their bolts. Remove the battery and stow it securely somewhere. (do not stack / a battery carelessly placed somewhere represents a hazard that can trip somebody over) 	
<ul style="list-style-type: none"> Fit new batteries. Refit the holding-down brackets. Connect the batteries and refit the protective caps. 	
<ul style="list-style-type: none"> Check that all the work in the hazardous areas has been completed and that there is no danger to people or machinery. Remove the LOTO locks. 	
<ul style="list-style-type: none"> Switch the main breakers for the buffer and starter batteries to ON. 	
<ul style="list-style-type: none"> Lock the switchgear cabinet again! 	

6.2 Replace the buffer battery between +ENGIA/ +ENGIB



Position of the buffer batteries between +ENGIA and +ENGIB (illustration for information purposes only)



Buffer batteries used: 2 OPTIMA YellowTop S 5.5

⚠ DANGER



Danger to persons from electrical voltage!

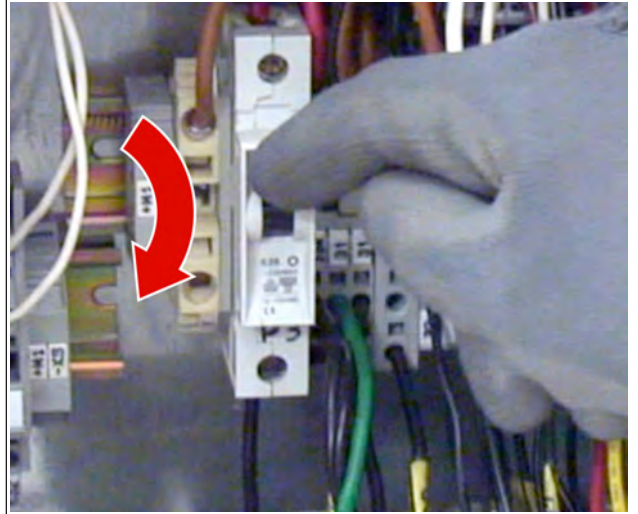
The switchgear cabinets are live.

- Switch off the power supply before opening.
- Secure it against being switched on again.

- Switch off the circuit breaker in the +ENGIA switchgear cabinet.
- Secure the circuit breaker with LOTO to prevent it from being inadvertently switched on.



- Switch the main circuit breakers for the buffer and starter batteries to OFF.
- Isolate the battery chargers at the main automatic circuit breaker(s) or switch off the main breaker for auxiliary equipment. See the plant circuit diagram for this.



- Secure the main circuit breakers against being switched back on.



- Check that there is no current. This can be tested at the starter motor battery leads with a clamp-on ammeter for direct current.



- Remove the panel (17 AF).



- Remove the connections to the batteries using an insulated open-ended wrench.

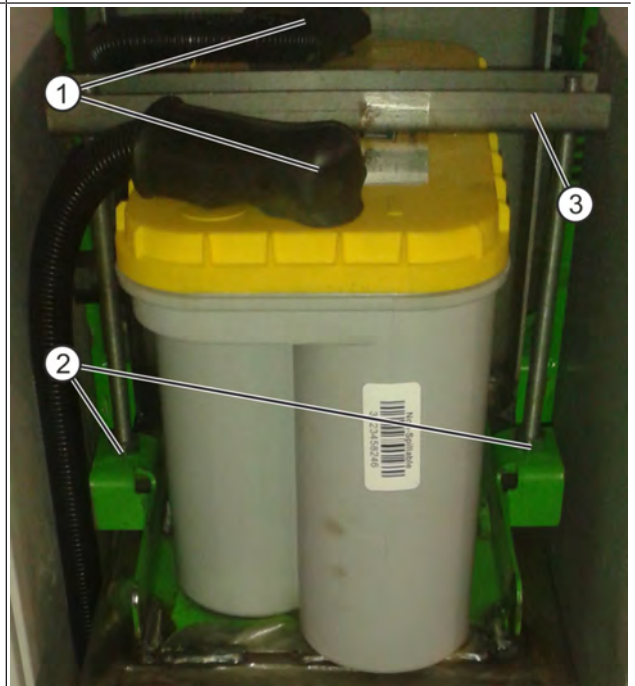


- Remove the protective caps ① from the connections.
- Disconnect the negative terminal.
- Disconnect the positive terminal.
- Insulate the battery terminals with terminal caps or suitable self-adhesive tape.
- Undo the lower bolted joint ② of the holding-down brackets of both batteries (2 x 2 x 17 AF).
- Remove the holding-down brackets ③ with their threaded rods.
- Remove the battery and stow it securely somewhere.

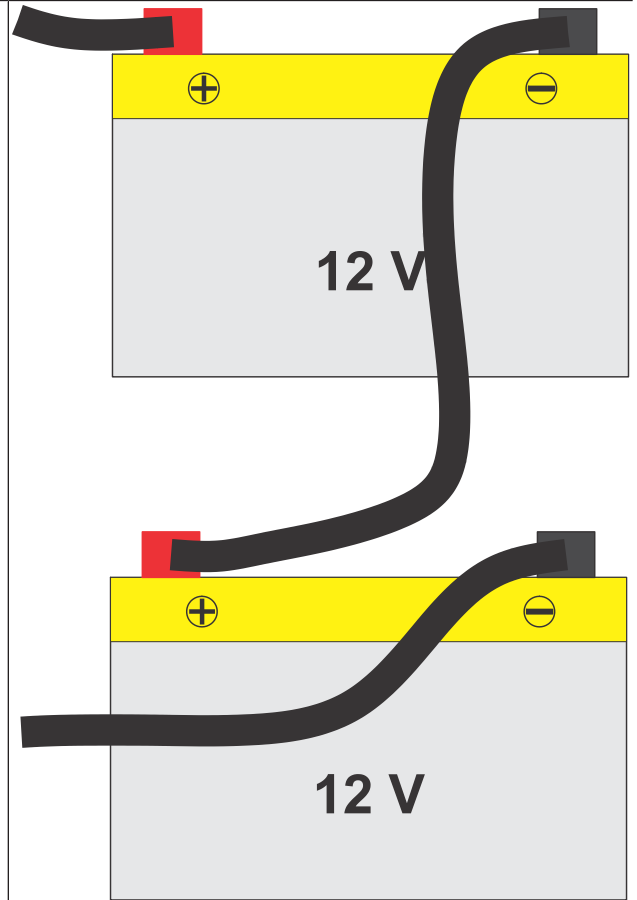


Do not stack batteries / a battery carelessly placed somewhere represents a hazard that can trip somebody over.

- Fit new batteries.
- Refit the holding-down brackets.



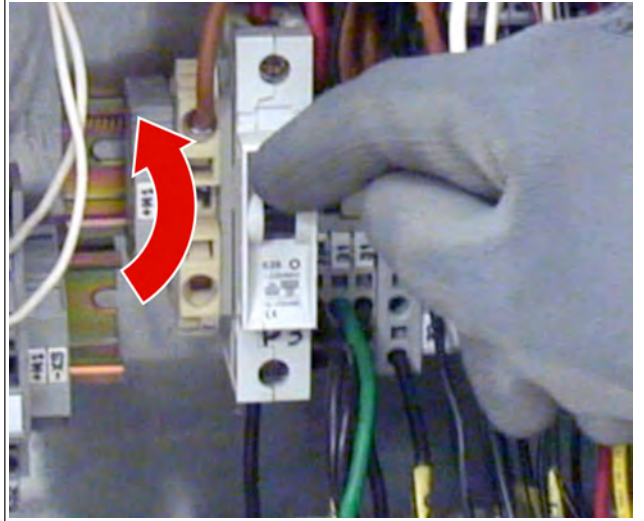
- Refit the battery cables in accordance with connection diagram alongside.
- Fit the protective caps to the contacts.
- Refit the cover.



- Check that all the work in the hazardous areas has been completed and that there is no danger to people or machinery.
- Remove the LOTO locks.



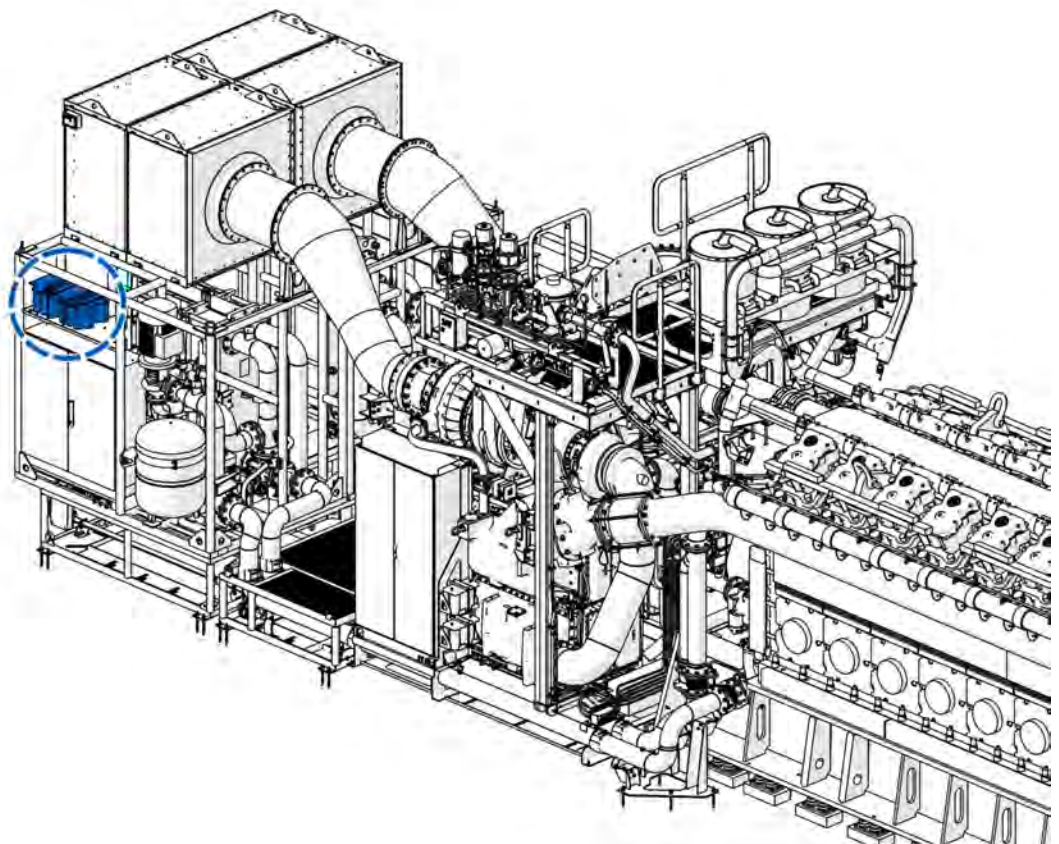
- Switch the main breakers for the buffer and starter batteries to ON.



- Lock the switchgear cabinet again!

6.3 Replace the buffer battery in the JW-Module

Valid for TCM + AUX modules:



Position of the buffer batteries in the TCA module (illustration for information purposes only)



Buffer batteries used: 4 OPTIMA YellowTop S 5.5

⚠ DANGER

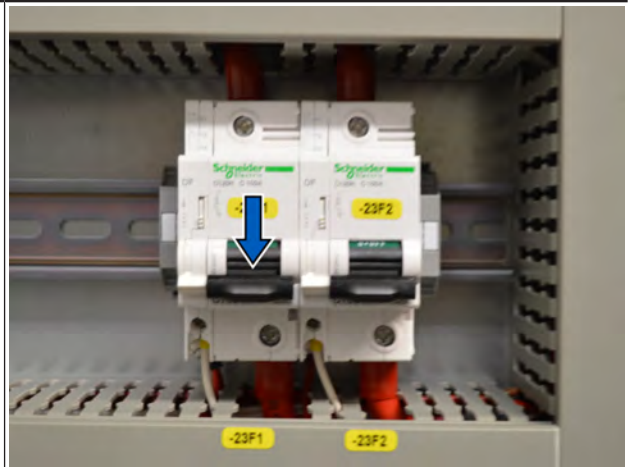


Danger to persons from electrical voltage!

The switchgear cabinets are live.

- Switch off the power supply before opening.
- Secure it against being switched on again.




- Switch the main circuit breakers for the buffer batteries to OFF.
- Isolate the battery chargers at the main automatic circuit breaker(s) or switch off the main breaker for auxiliary equipment. See the plant circuit diagram for this.



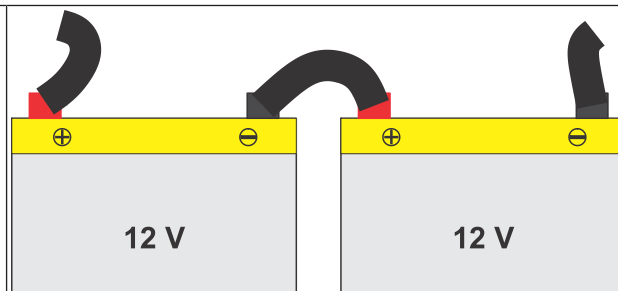
- Secure the main circuit breakers against being switched back on.



(Illustration for information purposes only)

<ul style="list-style-type: none"> • Check that there is no current. This can be tested at the starter motor battery leads with a clamp-on ammeter for direct current. 	
<ul style="list-style-type: none"> • Remove the bolts ①. (12 off). • Remove the orifice ②. (4 off) 	
<ul style="list-style-type: none"> • Remove the connections to the batteries using an insulated open-ended wrench. 	
<ul style="list-style-type: none"> • Remove the protective caps from the connections. • Disconnect the negative terminal. • Disconnect the positive terminal. • Insulate the battery terminals with terminal caps or suitable self-adhesive tape. • Remove the battery and stow it securely somewhere. (do not stack / a battery carelessly placed somewhere represents a hazard that can trip somebody over) • Fit new batteries. • Refit the holding-down brackets. 	

- Refit the battery cables in accordance with connection diagram alongside.
- Fit the protective caps to the contacts.
- Refit the cover.

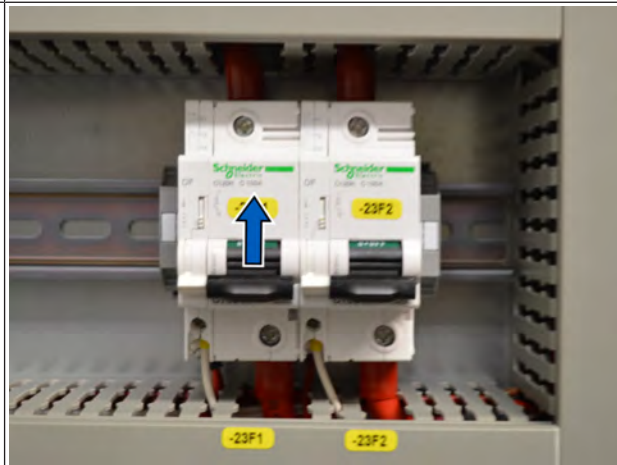


- Check that all the work in the hazardous areas has been completed and that there is no danger to people or machinery.
- Remove the LOTO locks.



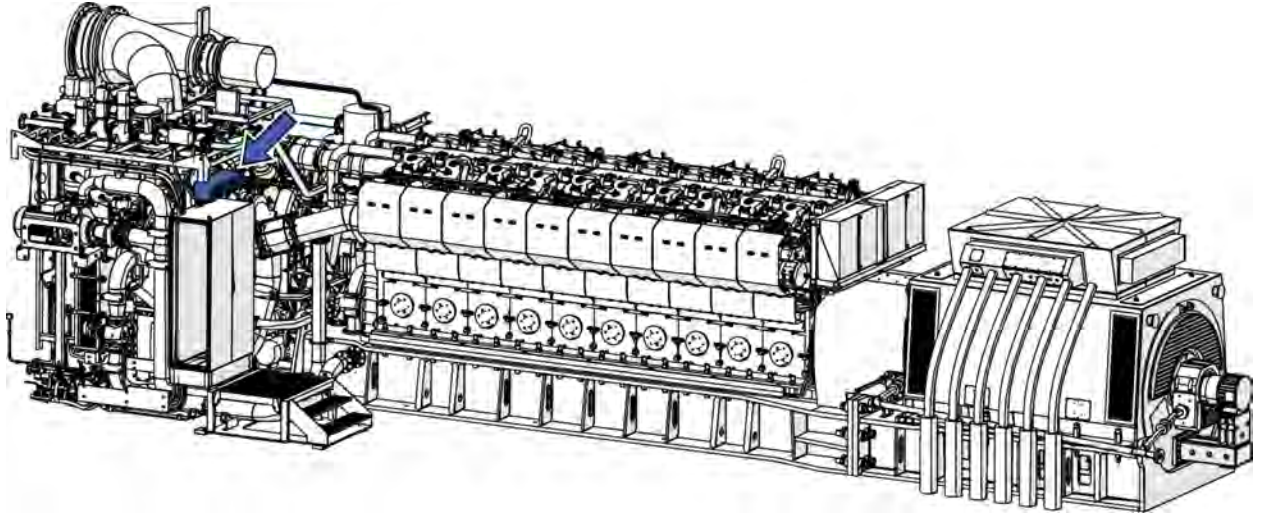
(Illustration for information purposes only)

- Switch the main automatic circuit breakers for the buffer batteries to OFF.
- Switch the main automatic circuit breaker(s) for battery chargers to ON or switch on the main breaker for auxiliary equipment.



6.4 Replace the buffer battery in the TCA-Module

Valid for TCA module:



Position of the buffer batteries in the TCA module (illustration for information purposes only)



Buffer batteries used: 2 OPTIMA YellowTop S 5.5

⚠ DANGER

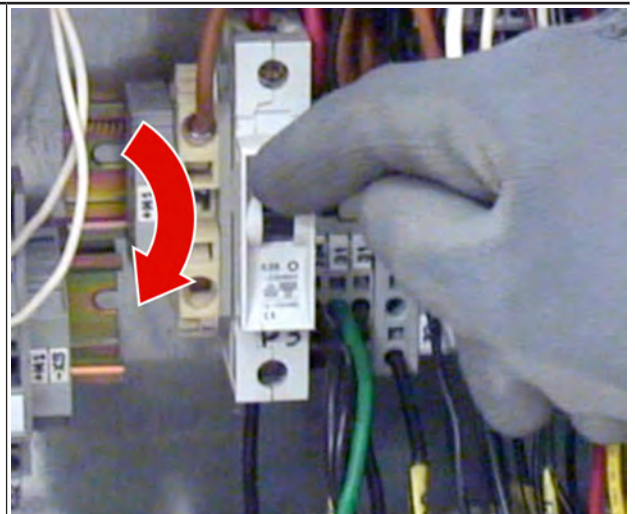


Danger to persons from electrical voltage!

The switchgear cabinets are live.

- Switch off the power supply before opening.
- Secure it against being switched on again.

- Switch the main circuit breakers for the buffer batteries to OFF.
- Isolate the battery chargers at the main automatic circuit breaker(s) or switch off the main breaker for auxiliary equipment. See the plant circuit diagram for this.



- Secure the main circuit breakers against being switched back on.

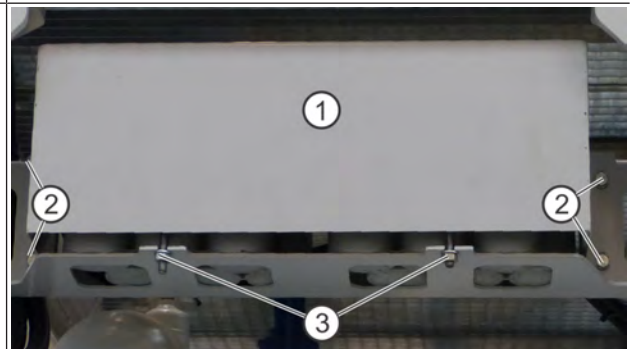


(Illustration for information purposes only)

- Check that there is no current. This can be tested at the starter motor battery leads with a clamp-on ammeter for direct current.



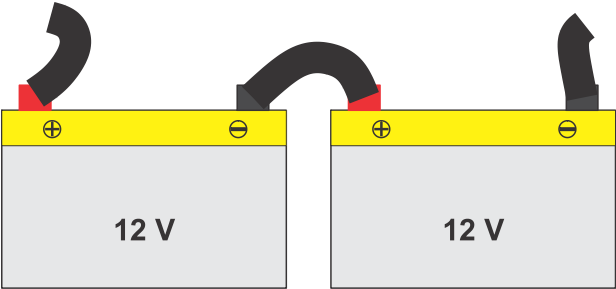

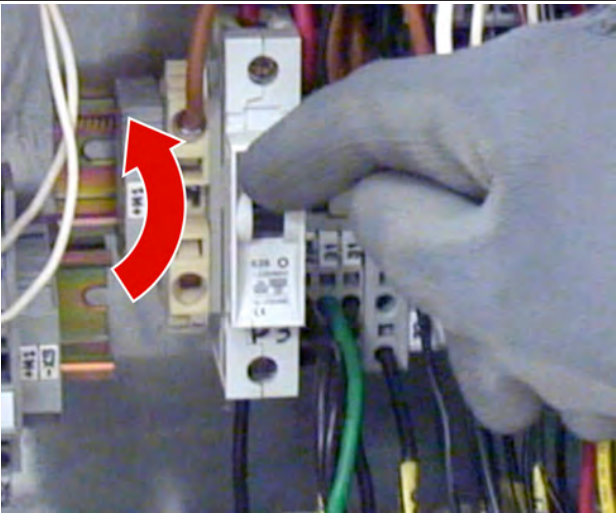
- Undo the bolts ② (17 AF).
- Remove the panel ①.
- Undo the lower bolted joint ③ of the holding-down brackets of both batteries.
- Remove the holding-down brackets with their threaded rods.



- Remove the connections to the batteries using an insulated open-ended wrench.



- Remove the protective caps from the connections.
- Disconnect the negative terminal.
- Disconnect the positive terminal.
- Insulate the battery terminals with terminal caps or suitable self-adhesive tape.

<ul style="list-style-type: none">Remove the battery and stow it securely somewhere. (do not stack / a battery carelessly placed somewhere represents a hazard that can trip somebody over)Fit new batteries.Refit the holding-down brackets.	
<ul style="list-style-type: none">Refit the battery cables in accordance with connection diagram alongside.Fit the protective caps to the contacts.Refit the cover.	
<ul style="list-style-type: none">Check that all the work in the hazardous areas has been completed and that there is no danger to people or machinery.Remove the LOTO locks.	 <p>(Illustration for information purposes only)</p>
<ul style="list-style-type: none">Switch the main automatic circuit breakers for the buffer batteries to OFF.Switch the main automatic circuit breaker(s) for battery chargers to ON or switch on the main breaker for auxiliary equipment.	

7 Revision code

Revision history			
Index	Date	Description / Revision summary	Expert Auditor

Revision history

3	30.07.2019	GE durch INNIO ersetzt / GE replaced by INNIO	Schweinberger A. <i>Pichler R.</i>
2	05.10.2016	Anpassung an TCM+AUX-Module / Adjustment to TCM+AUX-Modules	Grain W. <i>Fahringer A.</i>
1	19.02.2015	Erstausgabe / First issue	Kecht <i>Fahringer</i>