

Two-stroke

Copenhagen, July 2026

Action code: AT FIRST OPPORTUNITY

Running dual-fuel two-stroke engines in fuel oil mode for extended periods

Concerns

Dual-fuel Everllence B&W two-stroke engines

Summary

This Service Letter outlines our recommendations when operating dual-fuel Everllence B&W two-stroke engines in fuel oil mode for extended periods of time.

Contact details

For further advice and information, contact Everllence in Copenhagen by e-mail at

EngineSupport@everllence.com

References

Replaces SL2022-722, TWL.32.2023, CL0008-2024, and CL0008-2025

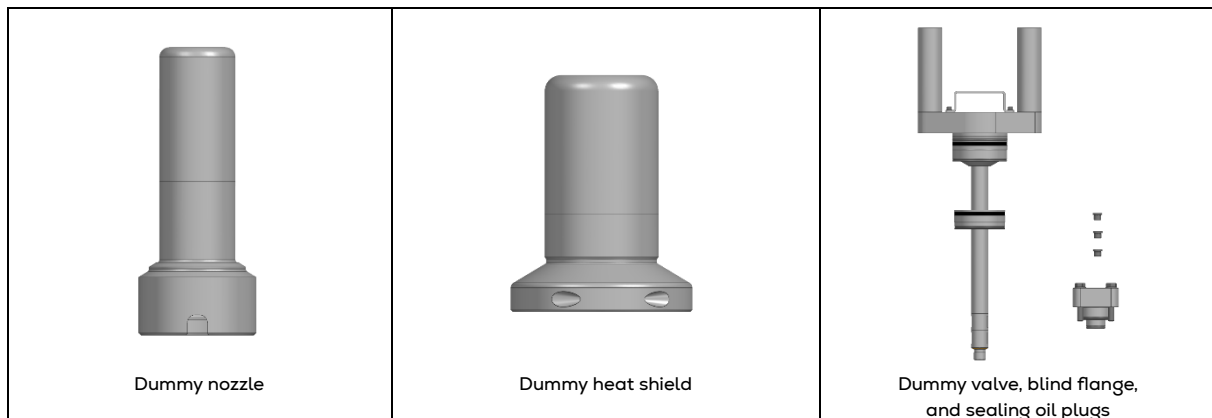


Fig. 1: Examples of dummy components for operation in fuel oil mode on dual-fuel engines

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Overview of recommendations for operating dual-fuel engines in fuel oil mode for extended periods

All dual-fuel engines

Introduction

When it is known that a dual-fuel engine will operate for extended periods in fuel oil mode, Everllence recommends taking precautions to minimise wear of the second fuel components. The precautions recommended optimise the lifetime of the second fuel injection valves. The durability of the second fuel valves is influenced by a combination of interacting factors, including:

- fuel quality (fuel oil and second fuel)
- engine load profile
- share of second fuel operation
- changeover frequencies.

For that reason, we have included indications on expected times between overhaul (TBO) that are based on the second fuel share as one of the most notable factors affecting the lifetime. Note that the numbers stated take into account the effect of other parameters also influencing the TBO.

Everllence is committed to reduce and, wherever possible, eliminate the need for dummy components through targeted development initiatives and service testing. The recommendations provided in this Service Letter reflect the current stage of these development activities.

For new engine orders placed on or after 1 August 2026, dummy nozzles or dummy heat shields are included as part of the standard scope of supply.

For engines already in service, or for orders where these components were not included in the contractual scope at the time of contracting, dummy heat shields, plugs, dummy nozzles, and blind flanges can be ordered separately via primeserv-cph@everllence.com. If dummy valves are preferred, these can likewise be ordered through the same contact.

More details on the necessary steps relevant for each second fuel technology are provided below.

ME-GI and ME-GIE engines

Up to 1 month running on low-sulphur fuel (<0.5% S) only:

- Run the ME-GI/GIE system weekly to ensure that the system remains active and fully operational.

Second fuel nozzle wear can be kept low by running the ME-GI and ME-GIE systems for as long as possible.

The service life intervals stated in Table I are based on a 4-week rolling period. The table

shows that wear is reduced, and that the need for dummy components can be eliminated, depending on how long the engine is running in second fuel mode.

Table 1: Expected service life of ME-GI and ME-GIE second fuel (SF) nozzles

| Time in second fuel mode | Expected service life |
|--------------------------|---------------------------|
| 10% - 40% in SF mode | ≈ 2,500 hrs. – 4,000 hrs. |
| 40% - 70% in SF mode | ≈ 3,500 hrs. – 5,000 hrs. |
| 70% - 100% in SF mode | ≈ 4,500 hrs. – 8,000 hrs. |

More than 1 month running on low-sulphur fuel (<0.5% S) only:

Option A

- Replace nozzles in gas injection valves (GIV) with dummy nozzles.
- High-pressure pipes remain on the engine, regardless of bore size. Dummy nozzles have an expected service life of 8,000 running hours and must be inspected every 4,000 hours.
- Perform a weekly purge sequence from the MOP.
Introducing N₂ to a tight gas system will remove the oxygen and eliminate the risk of corrosion. Furthermore, the sealing oil pump will start up automatically when using the purge function via the MOP. This prevents the accumulation of dirt in the oil bores in the gas block, and in the pipes to the second fuel valves and the top cover to the window valves.

Components in the fuel gas auxiliary systems may also need actions to ensure functionality after longer periods without running on fuel gas. The makers of such auxiliary systems are solely responsible for determining, performing, and validating any actions required on their equipment, and they must be contacted directly for guidance.

Option B

- Replace the gas injection valves (GIV) with dummy valves.
- High-pressure pipes remain on engine and are blocked at the dummy valves.
- The tip of the dummy valve must be inspected every 8,000 engine running hours.
- Perform a weekly purge sequence from the MOP.
Introducing N₂ to a tight gas system will remove the oxygen and eliminate the risk of corrosion. Furthermore, the sealing oil pump will start up automatically when using the purge function via the MOP. This prevents the accumulation of dirt in the oil bores in the gas block, and in the pipes to the second fuel valves and the top cover to the window valves.

Components in the fuel gas auxiliary systems may also need actions to ensure functionality after longer periods without running on fuel gas. The makers of such auxiliary systems are solely responsible for determining, performing, and validating any actions required on their equipment, and they must be contacted directly for guidance.

ME-LGIP engines

Up to 1 month running on low-sulphur fuel (<0.5% S) only:

- Run the ME-LGIP system weekly to ensure that the system remains active and fully operational.

Second fuel nozzle wear can be kept low by running the ME-LGIP system for as long as possible.

The service life intervals stated in Table II are based on a 4-week rolling period. The table shows that wear is reduced, and that the need for dummy components can be eliminated, depending on how long the engine is running in second fuel mode.

Table II: Expected service life of ME-LGIP second fuel (SF) nozzles

| Time in second fuel mode | Expected service life |
|--------------------------|---------------------------|
| 10% - 40% in SF mode | ≈ 1,000 hrs. - 2,000 hrs. |
| 40% - 70% in SF mode | ≈ 1,700 hrs. - 2,500 hrs. |
| 70% - 100% in SF mode | ≈ 2,000 hrs. - 4,000 hrs. |

More than 1 month running on low-sulphur fuel (<0.5% S) only:

Option A

- Depending on engine configuration, replace the FBIVP (fuel booster injection valve propane) nozzles with dummy nozzles or heat shields with dummy heat shields.
- Blank the high-pressure pipes by installing blind flanges and plugs on the gas block. In some cases, the high-pressure pipes are removed from the engine.
- Dummy nozzles and dummy heat shields have an expected service lifetime of 8,000 engine running hours and must be inspected every 4,000 hours.
- Perform a weekly purge sequence from the MOP.
Introducing N₂ to a tight gas system will remove the oxygen and eliminate the risk of corrosion. Furthermore, the sealing oil pump will start up automatically when using the purge function via the MOP. This prevents the accumulation of dirt in the oil bores in the gas block, and in the pipes to the second fuel valves and the top cover to the window valves.

Option B

- Replace the FBIVP valves with dummy valves.
- Remove the high-pressure pipes from the engine, and fit blind flanges and plugs on the gas block.
- Inspect dummy valve tips every 8,000 engine running hours.
- Perform a weekly purge sequence from the MOP.
Introducing N₂ to a tight gas system will remove the oxygen and eliminate the risk of corrosion. Furthermore, the sealing oil pump will start up automatically when using the purge function via the MOP. This prevents the accumulation of dirt in the oil bores in the gas block, and in the pipes to the second fuel valves and the top cover to the window valves.

Components in the fuel gas auxiliary systems may also need actions to ensure functionality after longer periods without running on fuel gas. The makers of such auxiliary systems are solely responsible for determining, performing, and validating any actions required on their equipment, and they must be contacted directly for guidance.

ME-LGIM engines

Up to 1 month running on low-sulphur fuel (<0.5% S) only:

- Run the ME-LGIM system weekly to ensure that the system remains active and fully operational.

Second fuel nozzle wear can be kept low by running the ME-LGIM system for as long as possible.

The service life intervals stated in Table III are based on a 4-week rolling period. The table shows that wear is reduced, and that the need for dummy components can be eliminated, depending on how long the engine is running in second fuel mode.

Table III: Expected service life of ME-LGIM second fuel (SF) nozzles

| Time in second fuel mode | Expected service life |
|--------------------------|---------------------------|
| 10% - 40% in SF mode | ≈ 2,500 hrs. – 4,000 hrs. |
| 40% - 70% in SF mode | ≈ 3,500 hrs. – 5,000 hrs. |
| 70% - 100% in SF mode | ≈ 4,500 hrs. – 8,000 hrs. |

More than 1 month running on low-sulphur fuel (<0.5% S) only:

Option A

- Depending on engine configuration, replace the FBIVM (fuel booster injection valve methanol) nozzles with dummy nozzles or heat shields with dummy heat shields.
- High-pressure pipes remain on the engine, regardless of bore size, and are blocked with plugs and blind flanges on the gas block. Dummy nozzles and heat shields have an expected service lifetime of 8,000 engine running hours and must be inspected every 4,000 hours.
- Perform a weekly purge sequence from the MOP.
Introducing N₂ to a tight gas system will remove the oxygen and eliminate the risk of corrosion. Furthermore, the sealing oil pump will start up automatically when using the purge function via the MOP. This prevents the accumulation of dirt in the oil bores in the gas block, and in the pipes to the second fuel valves and the top cover to the window valves.

Components in the fuel gas auxiliary systems may also need actions to ensure functionality after longer periods without running on fuel gas. The makers of such auxiliary systems are solely responsible for determining, performing, and validating any actions required on their equipment, and they must be contacted directly for guidance.

Option B

Regardless of bore size.

- Replace FBIVM valves with dummy valves.
- Remove the high-pressure pipes from the engine and fit blind flanges and plugs on the gas block.
- Inspect the tip of the dummy valve every 8,000 engine running hours.
- Perform a weekly purge sequence from the MOP.
Introducing N₂ to a tight gas system will remove the oxygen and eliminate the risk of

corrosion. Furthermore, the sealing oil pump will start up automatically when using the purge function via the MOP. This prevents the accumulation of dirt in the oil bores in the gas block, and in the pipes to the second fuel valves and the top cover to the window valves.

Components in the fuel gas auxiliary systems may also need actions to ensure functionality after longer periods without running on fuel gas. The makers of such auxiliary systems are solely responsible for determining, performing, and validating any actions required on their equipment, and they must be contacted directly for guidance.

ME-LGIA engines

Up to 1 month running on low-sulphur fuel (<0.5% S) only:

- Run the ME-LGIA system weekly to ensure that the system remains active and fully operational.

Second fuel nozzle wear can be kept low by running the ME-LGIA system for as long as possible.

The expected service life of ME-LGIA second fuel nozzles is to be determined (tbd) based on service experience.

Table IV: Expected service life of ME-LGIA second-fuel (SF) nozzles

| Time in second fuel mode | Expected service life |
|--------------------------|-----------------------|
| 10% - 40% in SF mode | <i>tbd</i> |
| 40% - 70% in SF mode | <i>tbd</i> |
| 70% - 100% in SF mode | <i>tbd</i> |

More than 1 month running on low-sulphur fuel (<0.5% S) only:

- Replace FBIVA (fuel booster injection valve ammonia) valves with dummy valves.
- Remove the high-pressure pipes from the engine and fit blind flanges and plugs on the gas block.
- Inspect the tip of the dummy valve every 8,000 engine running hours.
- Perform a weekly purge sequence from the MOP.
Introducing N₂ to a tight gas system will remove the oxygen and eliminate the risk of corrosion. Furthermore, the sealing oil pump will start up automatically when using the purge function via the MOP. This prevents the accumulation of dirt in the oil bores in the gas block, and in the pipes to the second fuel valves and the top cover to the window valves.
- Perform a weekly purge sequence on the Active Cooled Nozzle (ACN) water system.

Components in the fuel gas auxiliary systems may also need actions to ensure functionality after longer periods without running. The makers of such auxiliary systems are solely responsible for determining, performing, and validating any actions required on their equipment, and they must be contacted directly for guidance.

ME-GA engines

Up to one year running on low-sulphur (<0.5% S) and high-sulphur fuels (>0.5% S)

- Run the ME-GA system weekly to ensure that the system remains active and fully operational.

More than one year running on low-sulphur fuel (<0.5% S) and high-sulphur fuels (>0.5% S)

- Run the ME-GA system weekly to ensure that the system remains active and fully operational.
- Inspect the gas admission valve (GAV) every 8,000 engine running hours.
- Perform a weekly purge sequence from the MOP.
Introducing N₂ to a tight gas system will remove the oxygen and eliminate the risk of corrosion. Furthermore, the sealing oil pump will start up automatically when using the purge function via the MOP. This would also prevent the accumulation of dirt in the oil bores in the gas block, and in the pipes to the second fuel valves and the top cover to the window valves.

Components from fuel gas auxiliary systems may also need actions to ensure functionality after longer periods without running on fuel gas. The makers of such auxiliary systems are solely responsible for determining, performing, and validating any actions required on their equipment, and they must be contacted directly for guidance.

ME-GI, ME-GIE, ME-LGIP, ME-LGIM and ME-LGIA engines

Running on high-sulphur fuels (>0.5% S):

- Introduce dummy nozzles, dummy heat shields, or dummy valves as soon as possible.
- Shorter periods of high-sulphur operation with second fuel valves installed, will require overhaul of second fuel valves before second fuel operation is resumed.
- Perform a weekly purge sequence from the MOP.
Introducing N₂ to a tight gas system will remove the oxygen and eliminate the risk of corrosion. Furthermore, the sealing oil pump will start up automatically when using the purge function via the MOP. This prevents the accumulation of dirt in the oil bores in the gas block, and in the pipes to the second fuel valves and the top cover to the window valves.

Advantages with optional equipment

Option B - dummy valves

By choosing the optional dummy equipment, option B, certain operational advantages can be achieved:

- No work required on the FBIV or GIV when replacing with a dummy valve.
- Less downtime due to the shorter installation time compared to "Option A".
- The dummy valve has a lower mass, which makes it easier for the crew to handle. In some cases it can be handled without the use of a crane.
- For the FBIV, related pipes and high-pressure pipes are removed from the engine.
- Both the FBIV and the high-pressure pipes do not accumulate running hours while preserved and stored off the engine.

For further advice and information on operating dual-fuel engines in fuel oil mode, please contact Everllence in Copenhagen by e-mail at EngineSupport@everllence.com

Yours sincerely,
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