

Market Update Note



23 June 2020

New ME-GI platform

The platform reduces costs for engine installation, operation and auxiliary equipment

MAN B&W ME-GI engines have accumulated more than 1,000,000 service hours on bulk carriers, LNG, RO-RO, and container vessels.

Based on experience and requests from operators and shipowners, MAN Energy Solutions has introduced the new ME-GI platform, which has been standard for all new ME-GI engine orders since 1 January 2020.

The benefits of the optimised ME-GI platform:

1. **Considerable reduction of specific gas consumption (SGC) in dual fuel mode** with the dual fuel gas optimised performance tuning. To meet the expectations from the market, we have decided to optimise the dual fuel mode efficiency. This engine tuning will be standard for G95ME-C10.5-GI, G90ME-C10.5-GI and G80ME-C10.5-GI engines with 1.5% pilot amount, and for G70ME-C10.5-GI engines with 0.5% pilot amount, see the example in Fig. 1.

Dual fuel standard tuning will apply for all other ME-GI engines with an updated pilot oil amount to 1.5% with improved fuel consumption in fuel oil mode compared to today's standard.

2. **Reduced pilot amount** with the new two-step feature for fuel oil injectors, which enables the injector cut-off shaft lift to adapt to a high capacity for fuel oil injection and a lower capacity for gas operation, see the illustration in Fig. 2. This allows a better control of pilot oil injection and improves performance.

Fuel oil injectors with the new feature have been standard for all ME-GI engines for new orders since 1 January 2020.

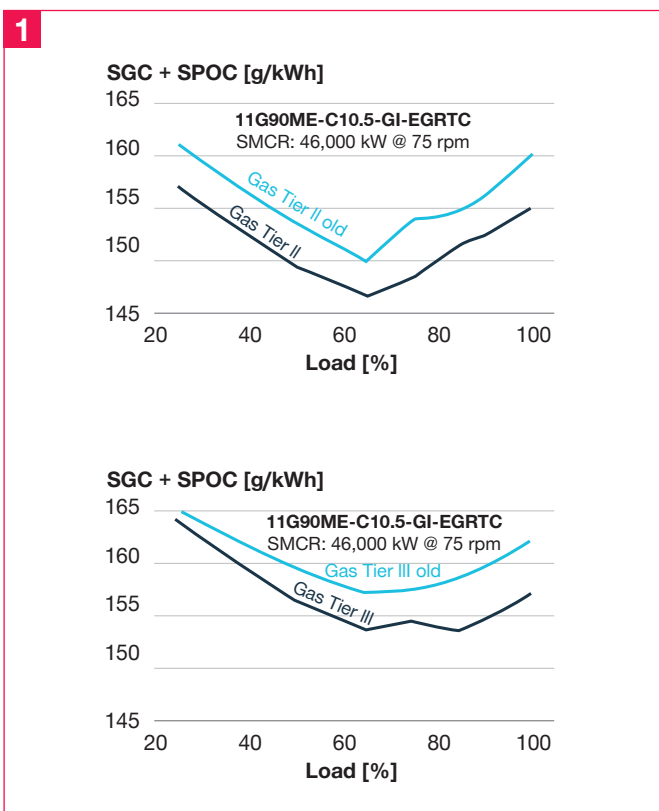


Fig. 1: 11G90ME-C10.5-GI-EGRTC, dual fuel gas optimised performance tuning

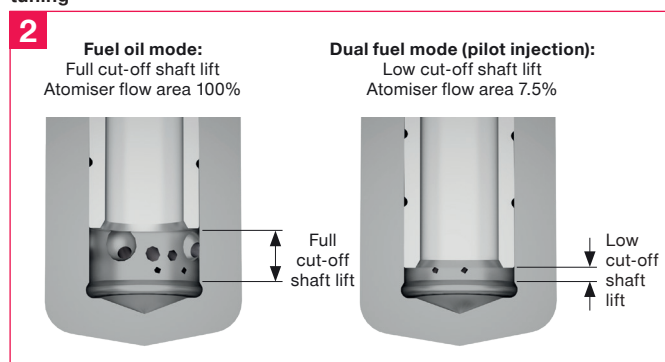


Fig. 2: The new pilot injection nozzle shown in fuel oil mode (left) and in dual fuel mode (right)

Market Update Note



3. **Increased fuel flexibility** with the gas cylinder cut-out function described in Fig. 3. Gas cylinder cut-out allows the operator to switch from gas operation to diesel operation on a single cylinder, while the remaining cylinders continue operation on gas during ongoing maintenance or troubleshooting.
4. **Reduced installation costs** for the shipyard and easier maintenance for the crew with the simplified and optimised gas application and engine components:
 - Reduction of the number of on-engine components by optimising the gas control block, the accumulator block, and removing the double-wall blow-off piping, thus reducing the length of the double-wall piping by 50%, see Fig. 4.
 - Simplification of pipe installations and easier overhaul of ME-GI equipment by partly removing sealing oil and high-pressure control oil pipes from the top cover and replacing these with internal channels in the cover.
5. **Simplified gas supply system** enabled by the removal of the blow-off pipe and introduction of the new optimised gas valve train (GVT) as shown in Fig. 5. The MAN PVU, which is available for all vessel types, has been optimised for the simplified system design.

The new ME-GI platform applies to all ME-GI engine types in our engine programme with operational advantages related to performance and simplicity of operation, maintenance and overhaul.

Please do not hesitate to contact our Two-Stroke Sales & Promotion department at kjeld.aabo@man-es.com for further information regarding this Market Update Note.

MAN Energy Solutions
Teglhømsgade 41
2450 Copenhagen SV, Denmark
Phone +45 33 85 11 00
www.marine.man-es.com

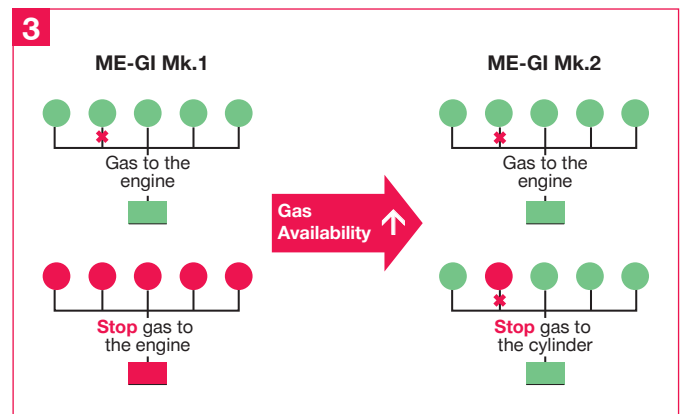


Fig. 3: Gas cylinder cut-out

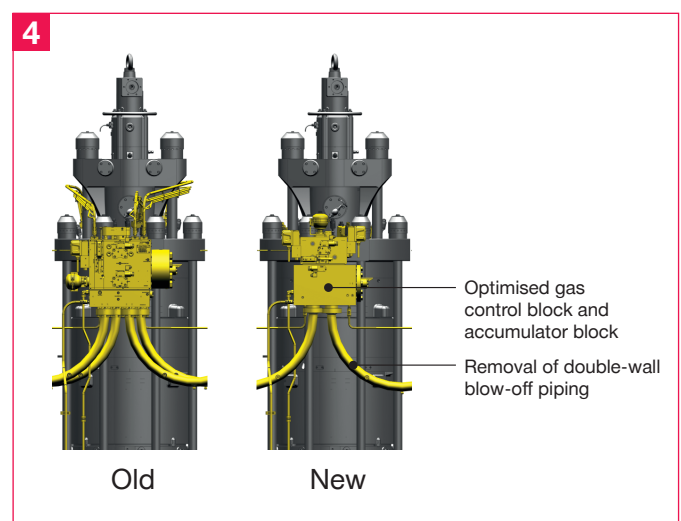


Fig. 4: Elimination of blow-off pipe and optimised gas control and accumulator block

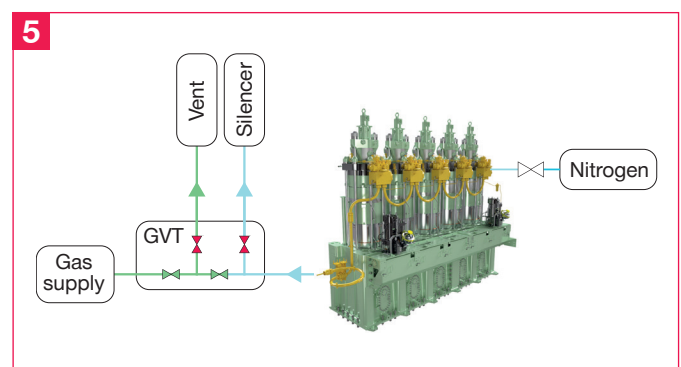


Fig. 5: Simplification of pipe installations with one pipe for gas supply and blow-off controlled by the GVT and with the nitrogen block integrated on the engine