

Dear Sir or Madam

Recently, we have received reports of malfunctioning EGR systems after longer periods of standstill or irregular usage. Based on our findings, we would like to emphasise the importance of maintaining the functionality of the EGR system to minimise the risk of failing systems due to sticking valves, stuck blowers or blocked filters, etc.

We recommend that EGRBP (exhaust gas recirculation bypass) and EGRTC (exhaust gas recirculation turbocharger cut out) systems are function-tested according to the scheme in Table 1.

If you have any questions or inquiries regarding this Service Letter, contact our Operation Department at Operation2S@man-es.com.

For questions regarding spare parts contact PrimeServ at Primeserv-cph@man-es.com.

Yours faithfully



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Action code: WHEN CONVENIENT

Regular operation of EGR systems

- EGRBP and EGRTC systems

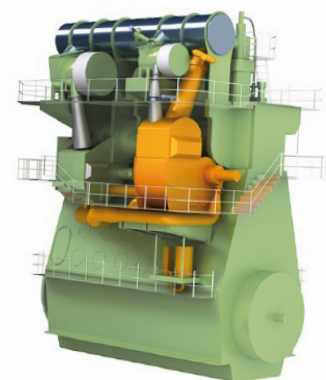
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Concerns

Owners and operators of MAN B&W two-stroke marine diesel engines.
Type: All engines with EGRBP and EGRTC

Summary

Guidelines for regularly operating EGRBP and EGRTC systems to minimise the risk of failing systems due to sticking valves, stuck blowers or blocked filters, etc.



Recommendations for maintaining EGR functionality

We recommend that EGR systems are started every second week (14 days) and that they are kept running for two hours, see Table 1. This is done to make sure the water treatment system (WTS) has circulated water through the buffer tank and flushed away any build-up of particles/granulate in the EGR system.

EGR operation on compliant fuel

EGR systems are designed as either low-sulphur (<0.1% S) or high-sulphur (>0.5% S and <3.5% S) EGR systems, but recent studies show that the low-sulphur EGR system can operate continuously on fuels with up to 0.5% S. The amount of sodium hydroxide (NaOH) required to neutralise the sulphur will be relative to the sulphur content of the fuel.

All ECO EGR configurations are already 0.5% S ready. If the vessel operates in ECA areas, keep in mind that the maximum allowed sulphur content is 0.1%.

Depending on the EGR setup, the alarm “Fuel sulphur content too high” may occur when trying to operate the EGR system on a fuel with 0.5% S. In that case, contact our Operation department for further assistance at Operation2S@man-es.com

Start of the EGR system with the engine running

For correct start-up of EGR systems, the following has to be fulfilled:

1. The engine is running on the correct type of fuel.
If you have a low-sulphur EGR system, the sulphur-content in the fuel oil can be up to 0.5%, otherwise you have to change fuel and adjust the sulphur content on the ECS MOP in the menu “Cylinder lubrication”. If you have a high-sulphur EGR system, you will be able to start up without further adjustments.
2. The water treatment system (WTS) is started according to maker’s instructions and in automatic mode.
3. The supply unit (SU pump and NaOH pump) is powered up and in automatic mode.

It is possible to start the EGR system when the engine is running with 15-80% engine load.

If Tier III mode is requested on the ECS MOP and the engine load is below 15%, the EGR system will remain in standby mode until the engine load is above 15%.

If Tier III mode is requested above 80% engine load, the ECS will automatically reduce the load to 80%, start up the EGR system and load up to the previous speed setting without the load programme active.

For the EGRTC system, the turbocharger has to be cut out manually to enable start of the EGR system. The request for turbocharger cut-out (TC cut-out) is made on the ECS MOP in the menu “Scavenge air” and cut out will be available if the engine load is below 10%.

Test of the EGR system with stopped engine

If operators are not able to test the complete EGR system while the engine is running, it is recommended that the following items are checked as during standstill.

1. Make a function test of EGR gas valves by changing opening and closing setpoints from the EGR MOP in the menu “EGR Gas”. Visually check the following valves, locally:
 - Blower throttle valve(s) - BTV1 (BTV2)
 - Cylinder bypass valve - CBV
 - Shut off valve - SOV

If you have an EGRTC system, activate TC cut-out on the ECS MOP in the menu “Scavenge air”. The blower bypass valve (BBV), the compressor cut-out valve (CCV) and the turbine cut-out valve (TCV) will close.

2. Make a function test of the EGR blower by manually starting it from the emission reduction control system (ERCS) MOP in the menu “EGR Gas” and adjusting blower rpm to minimum rpm.
3. Make a function test of the EGR process water system. The EGR water system can be run manually from the

Table 1: EGR system usage intervals

	Engine type	
	EGRBP	EGRTC
Engine running configuration	-	TC cut-in TC cut-out
Tier III running (Complete EGR running)	Every 2 weeks	N/A Every 2 weeks
Manual running of water system	Every 2 weeks	Change to TC cut-out mode or stop engine Every 2 weeks
Valve exercise (Manual movement of valves)	Every 2 weeks (only possible during port stays)	Every 2 weeks (only possible during port stays) Every 2 weeks (only possible during port stays)
EGR blower starting	Every 2 weeks (only possible during port stays)	Every 2 weeks (only possible during port stays) Every 2 weeks (only possible during port stays)

ERCS MOP by requesting “Manually Run EGR Water” in the menu “Water Recirculation”. This will start the EGR water loop if the level in the WTS buffer tank is sufficient. If the water level is too low, add freshwater to the buffer tank according to maker’s manual. We recommend to keep the water loop running for half an hour to flush the EGR tank and pipes.

If you are not able to start the water system manually, then you have to check each valve separately as mentioned in item 4.

4. Make a function test of EGR water valves by changing opening and closing setpoints from the EGR MOP in the menu “Water Recirculation”. Visually check the following valves, locally:
 - Mixing chamber drain valve – MCDV
 - Spray water sealing valve – SWSV
 - Process water sealing valve – PWSV
 - Receiving tank level valve – RTLV
 - Freshwater supply valve - FWSV

If you have an EGRTC system, check valves:

- EGR unit water trap valve – EUWV
- EGR unit drain valve – EUDV

Recommendations for taking EGR systems out of operation for longer periods

If the EGR system is not going to be operated for a longer period of time (1 year) it is recommended to disable and blank it off:

1. EGR gas pipes

The SOV string must be blanked-off with a plate either before or after the SOV, depending on the location of the SOV. The BTV must not be blanked-off since it is exercised regularly by the EGR control system, and the BTV venting line ensures that the EGR unit pressure follows the scavenge air pressure.

2. Sensor unit cabinet (SUC)

Close the ball valves on the gas probes mounted on top of the scavenge air receiver. Stopping the gas flow will activate a low-pressure alarm on the SUC cabinet, which will activate the SUC Common Alarm in the ERCS. This alarm should be inhibited while the EGR is out of service.

3. EGR process water pipe

No further action is needed for the EGR process water, but if it is decided to drain the Receiving Tank Unit (RTU), the pH sensors must be removed and stored according to the manual.

4. Supply unit

Inlet and outlet valves for the treated water supply pump (TWSP) and the NaOH connection must be closed.