

Trouble report & countermeasure on MGO mandatory use

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Trouble report on MGO mandatory use

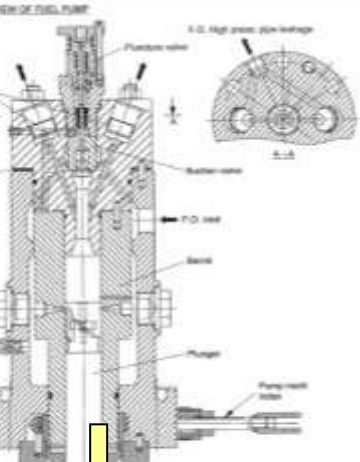


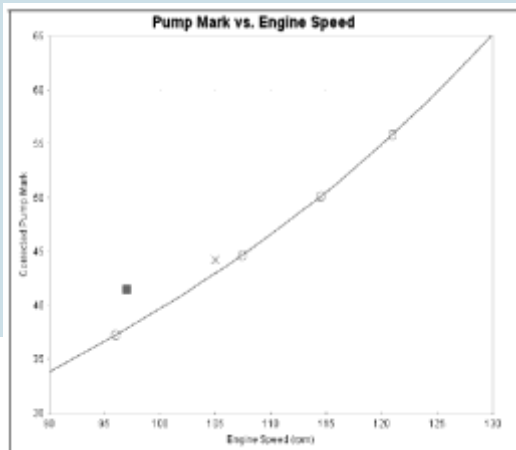
After January 1st, 2015, several troubles in conjunction with MGO use by less than 0.1% sulphur regulation introduction in ECA has been reported .

“**Trouble report on MGO mandatory use**” since Jun. 2015 is hereby presented.



Trouble report on MGO mandatory use : Case 1

Trouble Case-1	Crew's Action
<ol style="list-style-type: none"> 1. Difficulty of astern starting 2. Difficulty of engine rev. increase 	<p>Increased fuel pump index by change-over to emergency control.</p>
<h2>Cause</h2>	<h2>Countermeasure</h2>
<p>Big leak occurred in MGO having low viscosity even if no leak in HFO operation.</p>	<ol style="list-style-type: none"> 1. Measurement of the clearance at forthcoming dry dock or calling port
	<p>Allowable clearance: excess 50% than original</p> <ol style="list-style-type: none"> 2. Renewal of FO pump cylinder



Internal leakage in fuel pump

Trouble report on MGO mandatory use : Case 2



Trouble Case-2

1. Fluctuation of fuel oil pressure
2. Much amount of fuel oil drain from lower pump cylinder

Cause

Engine inlet FO viscosity was less than 2 cSt. due to high temp.



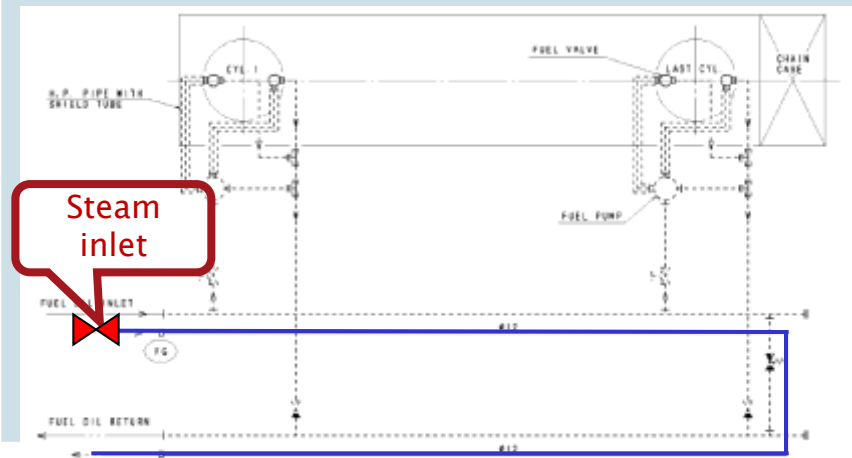
Much fuel oil leak down to drain line.
About 10L/h fuel drain can be seen at shop test.

Crew's Action

1. Renewed inlet valve for FO steam tracing pipe.
2. Closed valve completely for FO heater and changed into by-pass line for FO heater.

Countermeasure

Fuel oil line and steam tracing line are to be checked surely before using MGO.



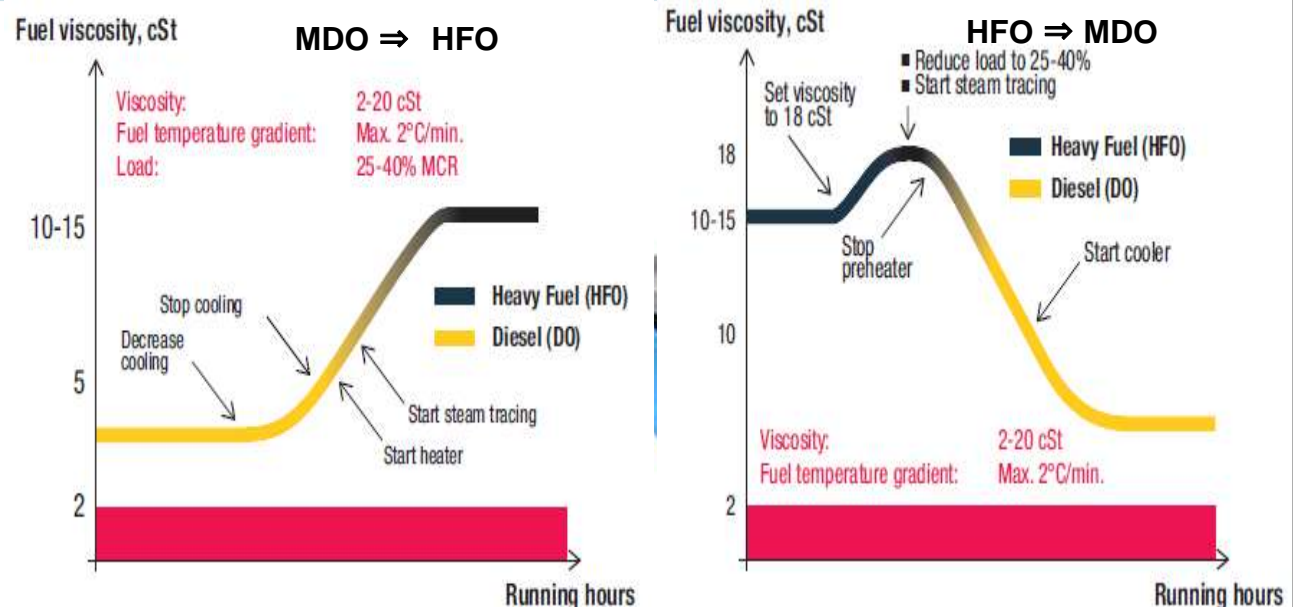
Trouble report on MGO mandatory use : Case 3

Trouble Case-3	Crew's Action
1. Fluctuation of FO pressure 2. Knocking noise & lowering of engine revolution	Air ventilation and renewal of FO pump cylinder were done.
Cause	Countermeasure
Vapor lock in FO line and slight sticking of FO pump cylinder were considered, but clear reason was unknown.	1. Careful handling for MGO 2. Using of lubricity improver 3. Regular maintenance of FO pump



Trouble report on MGO mandatory use : Case 4

Trouble Case-4	Crew's Action
Sticking of FO pumps during change-over MGO to HFO	Repair and Renewal of FO pumps
Cause	Countermeasure
Thermal shock due to rapid temperature change of fuel oil	Correct fuel oil change –over with careful temperature gradient: Max. 2 °C/min



Trouble report on MGO mandatory use : Conclusion

<Conclusion>

As a rough guideline, it is considered that FO pump is worn out when the FO pump index is increased by 5 -10 under the same HFO running condition as just after ship' s delivery.

In case, MGO will be used and increase of FO pump index was observed ...



Recommendation:

- ① **Measure FO pumps clearance and renew them if necessary.**
- ② **Do this action at dry dock or calling port regularly.**
- ③ **Keep sufficient spare parts on board for safe operation.**
- ④ **MES Technoservice can provide the engineer' s attendance and spare parts delivery any time.**

Note: If FO pump clearance increases by **50%** compared with new one, the renewal of cylinder complete will be recommended as rough guideline.

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We have a dream for our earth.

ご清聴ありがとうございました。

Thank you for your attention.

