TECHNICAL CIRCULAR

DOC No.: HHI-TEC-0441
Date : Mar. 15, 2022

SUBJECT: UNIC CONTROL SYSTEM REGULAR REBOOTING INTERVAL

TYPE: ALL WINGD ENGINE WITH UNIC ENGINE CONTROL SYSTEM

DISTRIBUTION

☑ Ship yard	☑ Ship owner

Date	TEC No.	Design	Check	Approve	Change	R
20220315	HHI-TEC-0441	YYY	LDH	SSH	First issue.	0
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TECHNICAL CIRCULAR

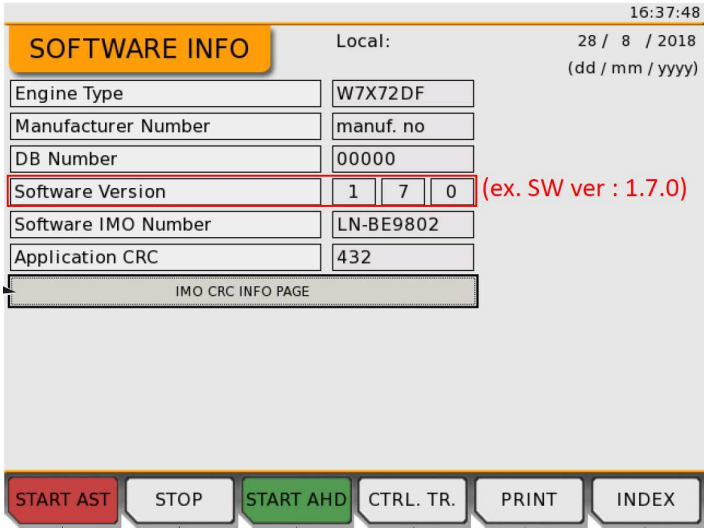
We, HHI-EMD, would like to inform customers of rebooting interval for UNIC engine control system. Because, isolated cases have been reported from the ships in operation, where an abnormal behavior of the engine control system (ECS) has been observed.

As a countermeasure, the UNIC ECS must be rebooted regularly. This must be done by disconnecting all power supplies from UNIC ECS (including the battery backup). Therefore, it may only be performed with the vessel in a safe position. It is highly recommended to check the wiring diagrams on board the specific vessel prior to performing the reboot.
When working on the electrical circuits it is important to follow all applicable safety measures.

The regular rebooting interval is different depended on UNIC software version. it is recommended to reboot the engine control system as below.

- ✓ X-generation diesel engine with UNIC : No system rebooting required
- ✓ X-DF engines with SW version older than SW 2.2.0 : Every 40~45 days
- ✓ X-DF engines with SW version 2.2.0 and higher : Every 120 days (4 months)

For reference, the operator can know the UNIC software version via LDU as below.



For the detail working procedure, please refer to the attachment (SL-0017-1)

This notice will be applied on all Hyundai-WinGD 2-stroke engines now and in the future.
For specific vessel that are being under construction, please contact HHI-EMD site office or the informed Email address in TEC.

We hope the information will do you a valuable service.

[The end]

Attachment :

#1 SL-0017-01 UNIC control system regular rebooting interval

Yours sincerely,

S. H. Shin

S. H. SHIN / Senior Engineer

Head of Marine Engine & Machinery Technical Sales Dep't

Attachment #1

Winterthur Gas & Diesel

Service Letter **SL-0017-1**

UNIC control system regular rebooting interval

Date:	2022-01-14

Implementation: Immediately

All WinGD/Wärtsilä engines with UNIC engine control system

This service letter applies to all diesel and X-DF engines which have a UNIC Engine Control System (ECS).

The SL-0017 service letter from November 2019 introduced precautionary measures for minimising ECS-related impacts on engine operation.

This service letter supersedes SL-0017 and provides findings in the field, including ECS software upgrades from 2021, which are explained. In addition, the list of affected engines has been added.

Yours faithfully,

Adrian Siegfried
GM Customer Support

Wolfgang Dunker
GM Partner Relations

Operational Information:

Supplementary instructions to the Operation Manual (OM) / troubleshooting guidance

Information for:

Owners and operators of WinGD/Wärtsilä engines featuring a UNIC engine control system

Summary:

Updated precautionary measures for minimising ECS-related impacts on engine operation

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1 Introduction

Isolated cases have been reported from ships in operation, where an abnormal behaviour of the Engine Control System (ECS) has been observed. It could be traced back to an issue in the platform software, which is common on all WinGD/Wärtsilä engines with the UNIC ECS. There is a time counter, which begins counting the moment the system is powered up. The counter reaches its numeric limit after approximately 47 days. A typical failure, resulting from this platform software related issue, could induce misfiring over one or multiple cycles, which then initiates a gas trip (on all X-DF engines, including the RT-flex50DF).

As a countermeasure, the UNIC ECS must be rebooted regularly. This must be done by disconnecting all power supplies from the UNIC ECS (including the battery backup). It may only be performed with the vessel in a safe position. For further details refer to the Service Bulletin RT-214, Issue 1 resp. RT-207 issue 1. To ensure robust communication between the AMS and the DCM, the LDU Local must be rebooted again (this is in addition to the instructions in the Service Bulletin after the complete UNIC reboot). It is highly recommended to check the wiring diagrams on board the specific vessel prior to performing the reboot.

When working on the electrical circuits it is important to follow all applicable safety measures.

2 Affected engines

WinGD investigated this issue deeply and was able to develop a solution together with the platform software provider. Software versions from SW 2.2.0 onwards have the solution implemented and have already been validated in the field. This issue in the platform software affects only X-DF engines. Despite positive feedback for the software versions from SW 2.2.0 onwards, WinGD has decided to take a cautious approach and is now releasing the following updated figures for the portfolio engines:

- For X-generation diesel engines with UNIC ECS, regular rebooting can be completely omitted. This means for X35/B, X40/B, X52, X62/B, and X72 there is no system rebooting required.
- For X-DF engines with an SW version older than the SW 2.2.0, regular rebooting of the UNIC ECS every 40 to 45 days remains valid.
- For X-DF engines with a SW version of SW 2.2.0 and higher, the rebooting interval is now extended to 120 days (four months).

3 Crank angle restoring

Prior to restarting the engine after rebooting the UNIC ECS, it is mandatory to perform at least one full revolution of the engine by using the turning gear. This is to restore the correct Crank Angle (CA). In the respective LDU page the status of the CA system be as shown in Figure 3-1.

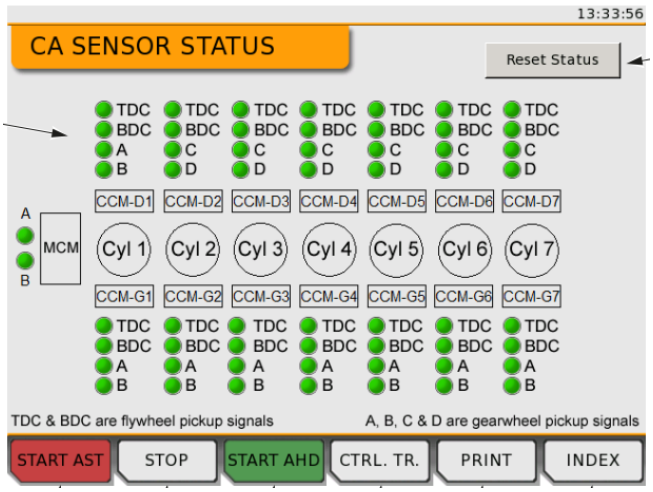

Figure 3-1: LDU (Local Display Unit) Crank Angle (CA) status

For emergency cases after a crank angle loss, when the engine must become operational immediately, an engine start command will initiate the automatic Angle Determination Algorithm (ADA) function. However, this must be used only in an emergency case since there is a potential risk of damaging the scavenge air flaps if the crankshaft stands in an unfortunate position.

4 Contacts

How to contact WinGD

For questions about the content of this Service Letter, or if you need WinGD's assistance, please contact your nearest WinGD representative office.
If you don't have the contact details at hand, please follow the link "Contact us" on the WinGD webpage:

https://www.wingd.com/en/about-wingd/contact-us/

Contact details of WinGD Service Partners:

For engine maintenance-, operation- support, service and other questions about operation and Service, please contact the following link "Service Partners" on the WinGD webpage to find further information about our Service Partners CMS and Wärtsilä Services Switzerland which can provide worldwide support.

https://www.wingd.com/en/service-support/service-partners/