

Diesel Customer Information Kunden Information



Ultrasonic cleaning of the charge-air cooler in situ Engine type 32/40, 40/54, 48/60 and 58/64

Cus 202 • 02/04

Purpose of jobs to be done	The condition of the charge-air cooler exerts a considerable influence on the operating performance of the engine. High charge-air temperatures, caused by contamination, directly result in higher exhaust gas temperatures. The thermal loading of all associated components increases, and so does the wear. In order to prevent this, it is recommended to clean the charge-air cooler at regular intervals.
Up to now procedure	Up to now, this requires a relatively large expenditure of time and extensive removal/refitting work, by removing, cleaning and reassembling of the charge air cooler. Sometimes the engine had to be taken out of operation for an extended period of time in this connection.
New: Cleaning of the installed charge air cooler	With the new system, very good cleaning results can be achieved in less time and with less removal/refitting work. For marine operation this work can be done for example during normal period in the harbour.
Benefits	The whole cleaning requires under normal conditions and with good preparation appr. 8 – 10 hours. With the reduced costs for works, transport and external cleaning, pay-back will be reached after a few cleaning procedures.
Execution	The procedure for ultrasonic cleaning of the charge-air cooler in installed condition is as follows: <ul style="list-style-type: none">• Specially adapted, transducer elements are placed in the charge-air cooler casing.• The casing is closed with suitable flanges. Afterwards, it is filled with a mixture of water/cleaning agent according to the instructions.• US cleaning can now be carried out. In this connection, the power has to be correctly adjusted at the control unit, depending on the casing size. The duration is determined by the degree of fouling. As a rule, however, it does not exceed two hours.• After US cleaning, the water/cleaning agent mixture is drained, and the casing is filled with fresh water for flushing one time and then drained again.• The engine can be reassembled into operational condition.

Example

The results we obtained with this cleaning method are throughout positive (see graphs below).
In one case the reduction of the differential pressure amounted to 75%.

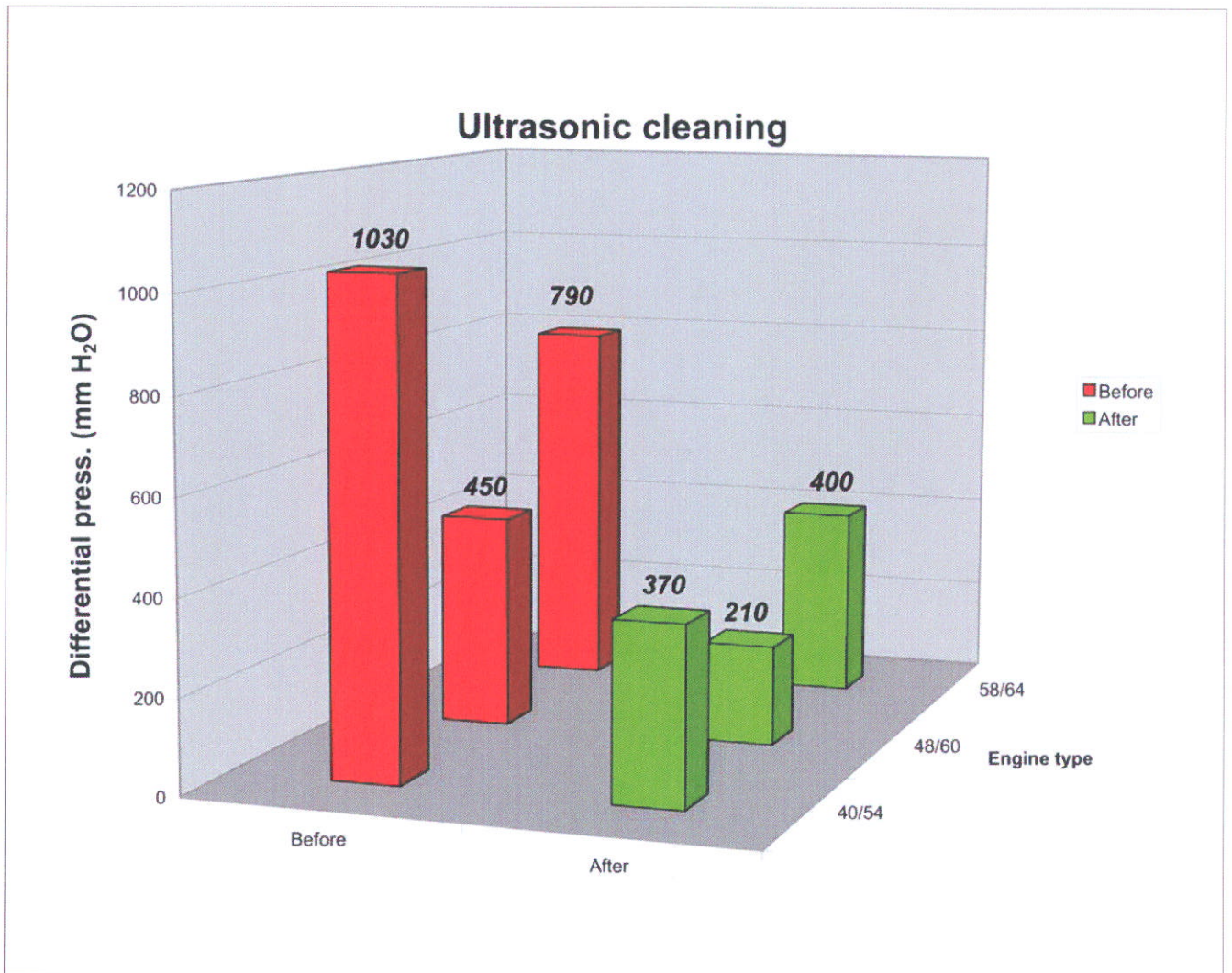


Figure 1. Differential pressure before and after ultra sonic cleaning

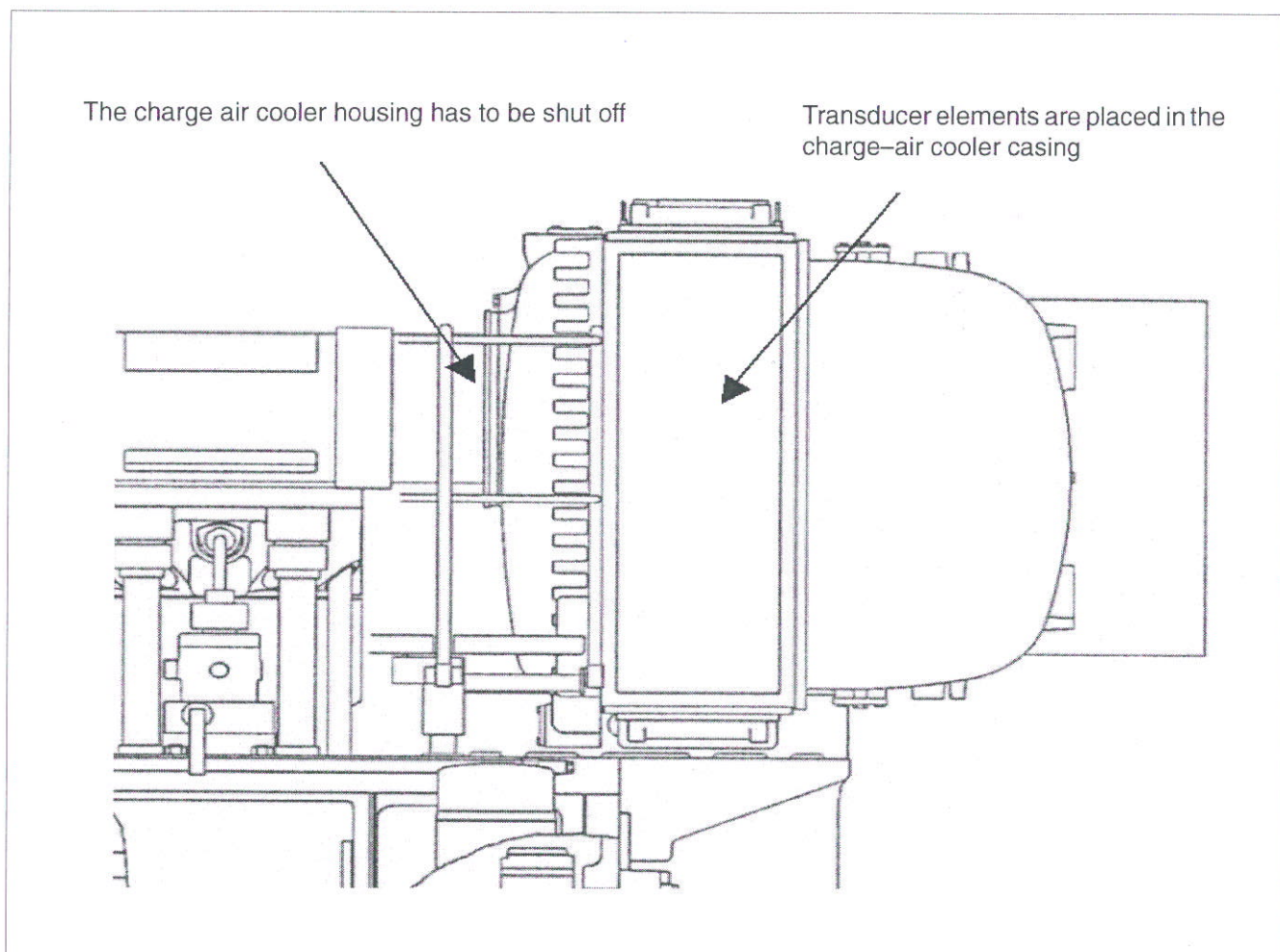


Figure 2. Assembly of charge air cooler

We will be pleased to submit you an offer.

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MST8/MPD2