

It's unwise to pay too much, but it's worse to pay too little!
(John Ruskin, 1819-1900)

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Do you still remember your first car? No matter whether a student or just started on your job, you surely did not have much money at that time and did search for a long time to find an economic means for increasing your mobility.

Whenever your wheels got stuck, you probably spent every free minute trying to get them going again. The required spare parts could, at that time, still be bought from a wrecked-car parts dealer or at the scrap-yard around the corner.

But usually, your faithful companion let you down again within a short time, either because your technical skills as a mechanic were not quite sufficient or because the spare part which you got at such a reasonable price suddenly refused to work.

Did you ever deliberate on how much this first car did actually cost you? Add your "hours as mechanic" and try to assess how much more a day at the beach or in the mountains, together with friends, would be worth than the installation of a new carburettor! One way or the other, you surely made this calculations later on, at the latest when the cars became bigger and more expensive or when your wife and children had to be transported in them instead of a tent and a crate of beer.

Then, you probably decided to have your vehicle overhauled in a specialised garage. From now on, original spare parts were the only possible solution as you did not want to stay at the roadside together with your enervated wife or whining children. Of course, you also observed the specified maintenance intervals - even if tears came to your eyes when you received the invoice of the garage ...

Does this description sound familiar to you? Basically, it can be reduced to two central statements:

1. The appreciation which a means of transport receives increases proportionally to the value of the transported load!
2. The question, how safe and reliable this means of transport has to be, is decided based on the risks which arise in case of a failure!

When practising your occupation, you nowadays almost daily have to make similar decisions as was the case at that time, regarding your first car. In this connection, you should always bear in mind that in return for a low purchase price and also for low maintenance costs you always have to put up with a higher risk.

Are you aware of this risk? How do you evaluate it? Do you take precautions?

Based on an actual case, we would like to draw your attention to the possible consequences which may result from using other than original spare parts for the operation of your MAN B&W Diesel engine plant:

It might be sufficiently known that the load changing elements - i.e. the inlet and exhaust valves - of Diesel engines belong to the most stressed components of such a thermal engine. For this reason, these components are, before they are used, subjected to an ingenious quality control by MAN B&W, as the failure of such a valve cone may lead to a damage which, with regard to cost, totals up to more than one hundred times the value of the damaged part.

Within the scope of the mentioned quality control by MAN B&W, thermoshock testing is also included by means of which the quality of the seat armouring with regard to the high alternating thermal loads, which occur during later operation, is ensured.

We recently had the opportunity to subject new valves of a non-authorized manufacturer to this thermoshock testing. The result can be gathered from the enclosed figure.



Figure 1. Valves of a non-authorized manufacturer after thermoshock testing

On both the exhaust valve cone (with rotary vanes on the shaft) and on the inlet valve cone (without rotary vanes), the seat armouring shows numerous heat cracks. This damage may easily result in the rupture of the valve plate which will then have the above-mentioned consequences.

Therefore, do not rely on somewhat cheaper parts from the grey market, but use original parts for whose quality MAN B&W automatically guarantees within the scope of their warranty.

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