

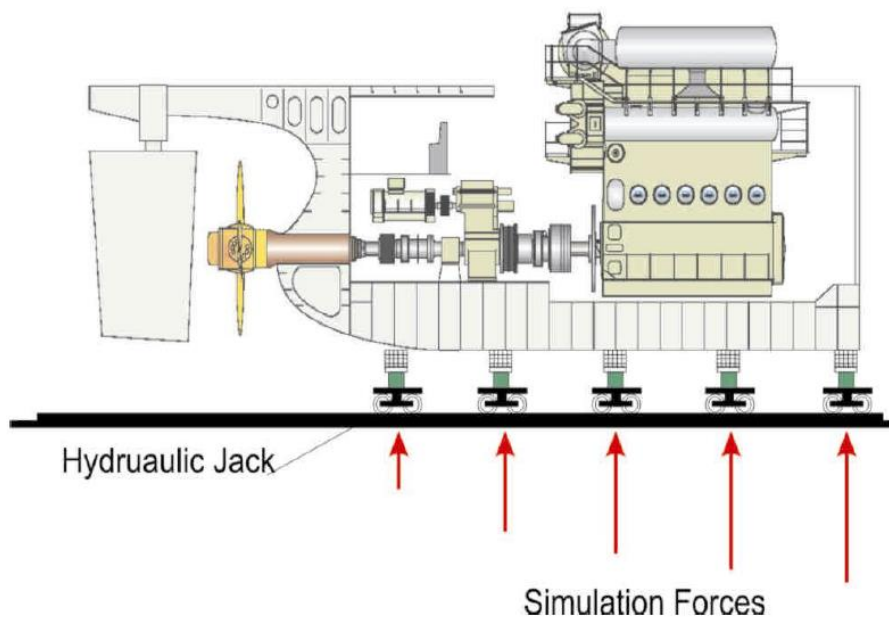
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SHAFT ALIGNMENT IN A DRY DOCK

Recently our company IMT was asked to deal with the problem of rapid wear of the intermediate shaft line bearings. Many assumptions were considered regarding the possible causes of failures. According to the presented shaft alignment calculation, there should be no problems. Moreover, the results of the jack-up testing showed a good agreement with the calculation. After all possible reasons were considered, we were informed that the shaft alignment was done ... in a dry dock. There was nothing further to discuss.

The phenomenon of double bottom deflections when the vessel is in a dry dock has long been known. And it is not for nothing that the Classification Societies rules contain clear requirement to carry out the final shaft alignment when a ship is afloat. However, despite this, the shipyards, trying to shorten the period of ship construction, do not abandon attempts to make shaft alignment in a dry dock.

One of the shipyards clearly understood the difference between the double bottom deflections in a dry dock and afloat began to use the simulation of buoyancy forces in the dry dock. For this purpose, they used hydraulic jacks.



After several attempts failed (too much difference in the nature of the load applied) they asked us to develop a method to find appropriate loads to simulate

real afloat conditions. Such a method was developed and four shipyards successfully applied it in their practice. This method was also applied to the isolated engine room block in the shop.

The simulation of buoyancy forces is the most reliable method for the final shaft alignment before the vessel is launched. This method can be applied when the ship is on a slipway, in a dry dock, or even in a floating dock.

We are firmly convinced that known attempts to apply collected statistics of shafting misalignment when the ship is afloat to bearing positioning in a dry dock are doomed to failure.