Market Update Note  
February 12th 2013

PMI Auto-tuning Standard  
ME/ME-C/ME-B Mk 9, 8.2, 8.3 Tier II Engines

We hereby give a summary of the implementation plan for our ME engines and, at the same time, underline why this initiative is necessary.

The engines affected by this Market Update Note include:

- all G-engines which, as a standard, will be equipped with PMI auto-tuning  
- all 80-98 bore engines contracted after 15 July 2012  
- all S50ME-C8.2 engines with Low Force exhaust valve  
- All other ME/ME-C and ME-B engines contracted after 1 April 2013.

As to the reason for the necessity of PMI auto-tuning, we can inform you that PMI auto-tuning is a valuable tool for keeping the engine fully updated on the $p_{\text{max}}$, $p_{\text{comp}}$ and $p_i$ distribution on the individual cylinders, thereby ensuring excellent performance.

Our latest engine designs, the ME/ME-B - 8.2, 8.3, 9.2 and 9.3, all fully utilise the possibilities of Miller timing (very late closing of the exhaust valve) in the high load area and, furthermore, feature very large variations in $p_{\text{comp}}$/$p_{\text{scav}}$ over the load range, sometimes combined with freeze injection profiles. This increases the demand for a very reliable and precise control and updating of the parameter settings.

In addition to the above-mentioned reason, PMI auto-tuning working online will thereby increase the accuracy of the exhaust valve closing time for the Low Force exhaust valve, which is designed with a floating valve lift.

The introduction of the Low Force exhaust valve and the Dot 3 technologies represent a well-defined change in the engine design. This change is suitable for making a clear borderline for the introduction of other valuable technologies, e.g. PMI auto-tuning.
PMI is expected to enhance the competitiveness of the engines. Obviously, this represents a slight cost increase, but the benefits and the payback time of the system make PMI very attractive. As an additional benefit, the reliability of the engine increases.

Questions regarding this Market Update Note should be directed to our LSP department, at lsp@mandieselturbo.com.

Best regards
MAN Diesel & Turbo

Ole Grøne

Leif Hauerslev