

YANMAR SERVICE NEWS

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| Subject | Application of PROTEC GREASE to Bolt Threads Banned | No.: 16-2-G-08-010-L Aug 2016 |
| Engine Model | see below | Use |
| | | Engine Nos. |
| Marine Main & Aux. Engines ; Industrial Engines | | |

To now, we have recommended the application of PROTEC GREASE, containing chlorine-based extreme pressure lubricating agent with high extreme pressure performance, to the threads of bolts, which require torque or angle tightening. It is because of the features of PROTEC GREASE that when friction heat was generated exceeding a fixed level upon bolt tightening or loosening, chlorine ions are released from the product and react with the damaged metallic surfaces for repairing. A part of the released chlorine ions remaining, not used for repairing, subsequently, are consumed by the neutralizing agent (calcium carbonate, etc.) for rendering them harmless.

However, it was found recently that the amount of neutralizing agent in the grease varied depending on each application and that the released chlorine ions would remain partially for possible acceleration of corrosion when the amount of neutralizing agent was insufficient.

The extreme friction heat that would let chlorine ions be released, however, is considered, to be generated only under the very rare condition when some of the adverse factors, including rough thread surface, embedding of foreign substance, etc., combined, together with insufficient amount of neutralizing agent in the grease. Nevertheless, when released chlorine ions did exist on the thread surface, it can cause the stress corrosion cracking and the resultant fracture of the relevant part.

Concerning the use of the sulfur-based grease, similar trouble has been caused, too. In this case, it is possible that the stress corrosion cracking due to sulfuric acid will be caused.

Under the circumstances, in order to prevent the accident, we have decided to ban the use of the chlorine-based, (PROTEC GREASE, etc.), and sulfur-based greases to the bolt threads. Instead, we recommend the use of lube oil to be applied to bolt threads. In addition, we recommend that you would be careful about the periodic replacement of bolts, sufficient cleaning prior to assembly, etc., too.

(Apply PROTEC GREASE to bolt seats as has been done before.)

Engine Model :

6A, 6R, 6M, 6U, 6G, S165, S185, 6N160, 6N165, 6NA160, 6NB165, 6NH160, 6,12,16SHL, 6,8,12,16NHL
M200, M220, T220, T240, T260, 12T260, 6,8Z280, 6,8,12,16Z, 6,8N280, 6N18, 6NY16, 6RY17,
6EY17, 6EY18

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