



Service Letter

SL06-467/JLS
October 2006

New Design of High-Pressure Hydraulic Hoses
Personnel Safety – Protective Hose
All Engines
Action Code: AT FIRST OPPORTUNITY

Dear Sirs

Attention is drawn to the high-pressure hydraulic hoses which connect the hydraulic pump and the hydraulic jacks used on MAN B&W two-stroke engines during overhaul.

The working pressure for the hydraulic tightening tools has been raised from 900 bar on all MC engines, over 1500 bar generally for MC-C engines, up to 2200 bar for most ME and ME-C engines.

We have received a few reports of incidents with damaged hydraulic hoses and couplings. Additionally, during visits on board ships, we have observed high-pressure hydraulic hoses with dent marks and wear. These should have been replaced with new ones.

As a part of our continuous efforts to increase the safety of our engines and tools, we have carried out destructive tests of various high-pressure hoses, in order to investigate the risk of accidents due to such wear and dent marks.

The destructive tests clearly demonstrated that a failure on a high-pressure hose can lead to high-pressure oil jet leakages, which may cause injury to the operating personnel.

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Further tests have shown that the fitting of an adequate protection hose around the high-pressure hose will neutralise such high-pressure oil jet leakages, see the photo below.



Both tests (with and without a protective hose) were recorded on video camera, and the video sequences can be studied on the enclosed CD-ROM, and are also accessible at our Internet address: <http://www.manbw.com/specialanimations>

Action

Based on our investigations, and in order to minimise the risk of personal injuries due to high-pressure oil jet leakages, the hydraulic hose design for all new two-stroke engines ordered from MAN Diesel has been updated to include a protection hose as the standard.

At the same time, we have changed the design of the connection between the end of the hose and the quick coupling. The sealing method has been changed from a flat face fitting with copper gaskets to a new 120-degree metal seal with line contact (see Encl. 1).

The quick-couplings of the previous flat-face design cannot be used with the new hoses. Accordingly, new hoses ordered will generally be delivered complete with quick couplings of the new metal seal design.



We recommend that the crew on board the vessels inspect their high-pressure hydraulic hoses. If there are any doubts in relation to the safety of the high-pressure hydraulic hoses, e.g. due to wear or dent marks, new hoses with protection against high-pressure oil jet leakages can be ordered from our MAN Diesel PrimeServ department by using the enclosed order form (Encl. 2).

Questions or comments regarding this SL should be directed to our Dept. 2140.

Yours faithfully
MAN Diesel A/S

A large, stylized black ink signature of Carl-Erik Egeberg.

Carl-Erik Egeberg

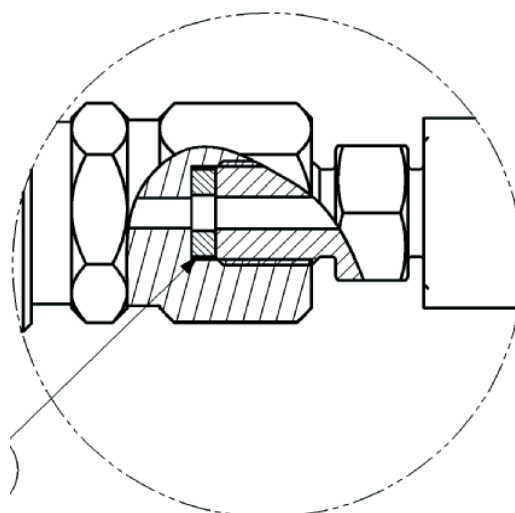
A blue ink signature of Leif Hauerslev.

Leif Hauerslev

Encl.: New sealing method
Order form
CD-ROM

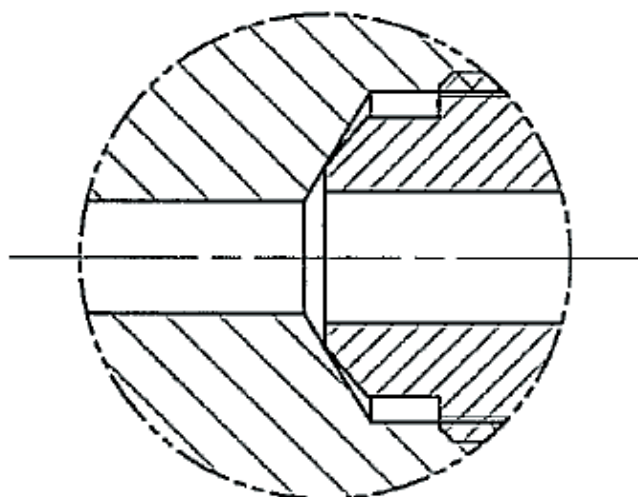
New sealing method between hose and quick coupling

Previous design



Flat face with copper gasket

New design



120-degree face and line contact sealing



Order form – new high-pressure hydraulic hoses			
MAN Diesel A/S, Copenhagen, Denmark Fax: +45 33 85 10 49 (Att: Dept. 4210) or e-mail this form to diesel-service@manbw.dk			
Fill out the below information:			
Ship name	Engine type	IMO No./Lloyds No.	Date
Delivery address:			
Please send me a quotation for the following hoses _____			
Please send me the following hoses _____			
Working pressure for hydraulic tool: 900 bar: _____ 1500 bar: _____ 2200 bar: _____			
Length	Number of hoses		
1.5 meter			
3.0 meter			
5.0 meter			
6.0 meter			
Hoses for special lifting tool for cylinder cover hydraulic jacks (if available)			
Measure length and inform (see drawing below)	Number of hoses		
_____ meter			
_____ meter			
_____ meter			
_____ meter			

