

Action code: WHEN CONVENIENT**New recommendation for grinding angle of exhaust valve spindle**

SL2019-682/JAG

October 2019

Concerns

Owners and operators of MAN B&W

two-stroke marine diesel engines.

Type: All 30-98 bore engines

Summary

Service inspections have shown that the predominant contact pattern between spindle seat and bottom piece seat is an inner contact rather than a full contact as intended.

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Dear Sir or Madam

The "wide seat" bore-cooled bottom piece design was introduced in response to the steadily raised temperature level of combustion chamber components aiming at energy efficiency and compliance with emission regulations. The "wide seat" design alone has been in service since 2015 and introduced in the bore-cooled design since 2018.

This Service Letter introduces an update of the machining tolerances on the spindle seat angle.

Yours faithfully



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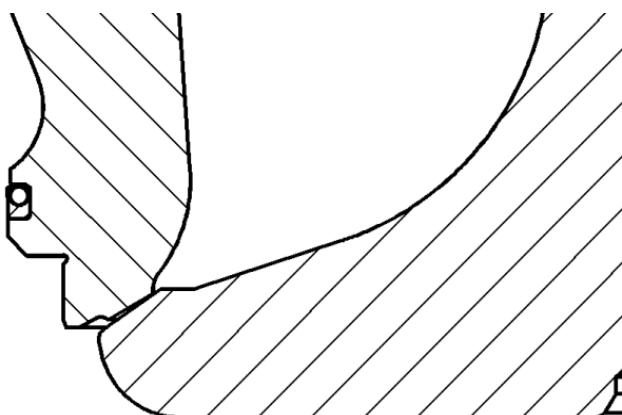
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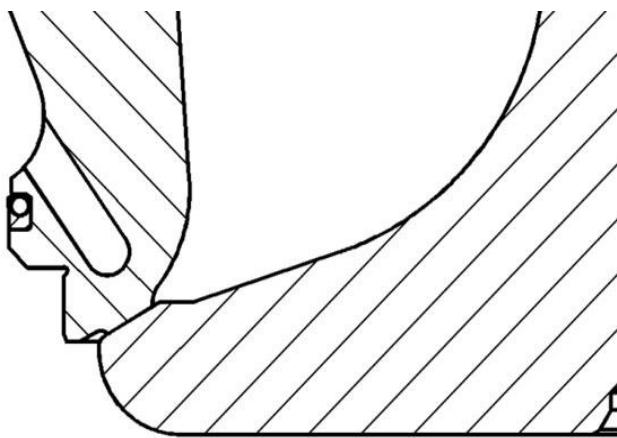
The exhaust valve spindle is not actively cooled, but the contact to the bottom piece seat is a cooling contribution to the spindle seat. The “wide seat” design features a contact area between the spindle seat and the bottom piece seat which is meant to improve the heat transfer from the uncooled spindle to the water-cooled bottom piece.

“Wide seat” bottom piece designs

Previous



Present - bore cooled



However, service inspections have shown that the predominant contact pattern between spindle seat and bottom piece seat is an inner contact rather than near full contact as intended.

These observations have led us to update the machining tolerances on spindle seat angle for a better parallel contact between the two seats, which will improve the heat transfer between the bottom piece and the spindle.

Today, the updated seat angle tolerances are the new standard for all new spindles purchased, but for the first recondition of spindles in service we recommend to apply the new spindle seat angle, as also described in your maintenance document Work Card 2265-0200 or for older manuals M90802.

New grinding angle for spindle seat $30.2^\circ +0.05/-0$

Note: this applies to spindles serviced in bottom pieces of both W-seat and wide-seat designs. The seat angle for the bottom piece keeps the 30 degree but with new tolerance $30.0^\circ +0/-0.05$.

During recondition of your exhaust valves, we advice you to draw the attention of the workshop to this matter, in particular if using other workshops than our PrimeServ shops.

Further advance of spindle seat cooling can also be obtained by applying the new “bore-cooled” bottom piece.

Questions regarding this Service Letter should be directed to our Operation department, Marine Mechanics (Dept. EEEEO6) at leo@man-es.com.