PrimeServ

New service products

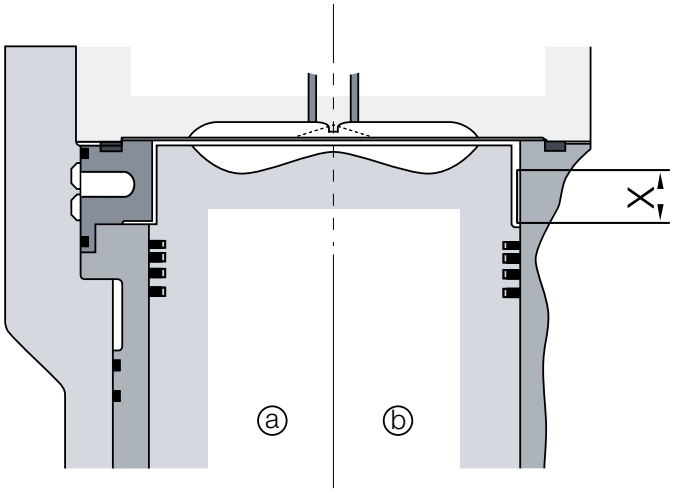
Stepped cylinder liners and pistons

MAN Diesel | PrimeServ

Stepped cylinder liners and pistons

>> Engines 32/36 to 58/64

Comparison of cylinder liner and piston types



a) Two-piece stepped cylinder liner from the current engine range
b) Single-piece stepped cylinder liner for replacement requirements in engines 32/36 to 58/64
x) Zone with smaller cylinder liner diameter than usual and receding piston crown. The piston clearance is not affected by this. The cylinder liner has a wear-resistant coating in zone X

Optimum modernisation for older MAN diesel engines

Retrofitting stepped cylinder liners and pistons results in considerable savings. The low cost allows nearly every engine constructed to the MAN design to benefit from this.

This solution can be implemented in older four-stroke engines 32/36 to 58/64 with single-piece cylinder liners. It is not necessary to replace the piston. The step on the piston crown can be adapted by any well equipped workshop.

Benefits

>> Our competitively priced development has a payback time of less than two years – simply due to the lower lubrication oil consumption
>> The quality of the lubrication oil remains constant
>> The wear rates become less because there is no bore polishing
>> Maintenance intervals can be increased
>> Retrofitting stepped cylinder liners and pistons results in further cost advantages for you due to the better durability

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Convincing results in practice

A three-year long-term trial with single-piece stepped cylinder liners in six of the nine L58/64 engines on the *Queen Elizabeth II* cruise ship showed the following results:

Lubrication oil consumption

>> Saving compared to conventional liners of on average 0.5 g/kWh. This means that the retrofitting of the stepped design pays for itself in less than two years
>> The lubrication oil consumption remained constant throughout the entire trial period

Lubrication oil quality

>> The viscosity and load of the lubrication oil remained in the normal range
>> The characteristic values were constant

Wear values for pistons & piston rings

>> Pistons coked to normal extent, no noticeable pattern
>> Piston ring wear (chrome-ceramic) was between 0.01 and 0.015 mm/1000 h; it was therefore 50 % better than with the original version
>> The TBO of the pistons was extended to 20,000 hours

Wear values for the cylinder liners

>> Maximum wear of 0.0045 mm/1000 h, no bore polishing, no contact grooves
>> Absolute roundness of the cylinder liner, especially in the upper area

Our technical service will be happy to answer any questions about this service. Please do not hesitate to ask for detailed information or a no-obligation quote for converting your engine installation.

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