



Action code: AT FIRST OPPORTUNITY

Valve Bridge Guide for L27/38

SL2015-608/MIKA
December 2015

Concerns

Owners and operators of
MAN four-stroke diesel engines.
Type: L27/38 GenSet and Propulsion
Tier I and Tier II versions

Dear Sir

In December 2011 we introduced a valve bridge guide on the engine type L16/24. The valve bridge guide was introduced to ensure guidance of the valve bridge even if the guidance by the valve spindle was lost. Based on the good experience from the L16/24 valve bridge guide, which has proved to give higher safety against unforeseen valve damage caused by turning valve bridges, we have designed and tested a similar retrofit solution for the L27/38 engine type. This solution ensures full guidance during operation, regardless of the position of the valve spindle. The guide is retrofitted to the top of the fuel valve thrust piece.

Valve bridge guides can be ordered free of charge until 31/12-2016 from MAN Diesel & Turbo EXW Frederikshavn (Incoterms 2010).

Please use the enclosed plate 50504-02 and fill in the enclosed "Ordering of Spare Parts", 500.50, and send it to our Operation Department: leo7-hol@mandieselturbo.com

We also refer to our service letter SL2012-559 regarding correct valve adjustment procedure. A correct valve adjustment is essential to be able to benefit from the valve bridge guide retrofit.

Yours faithfully

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Enclosure:
Description 500.50 edition 03
Work Card 508-01.20 edition 02
Plate 50504-02


Mikael C. Jensen
Vice President
Engineering


Jens Christensen
Manager Maturing & Testing
Four-stroke





The problem

If the inlet or exhaust valves get stuck, there is a risk that the valve bridge may turn and, as a consequence, damage the engine severely.

The root causes of the damage are often found to be improper, wrong or lacking adjustments of the valve clearance, long term low-load operation of the engine and/or operation on poor fuel quality (low FIA), leading to a heavy build-up of deposits on the valve spindles, and eventually causing sticking valves.

Consequences

If the valve bridge turns, it may push down the valve rotator, which will then cause the valve cone locking piece to release and fall out. This might cause the valve spindle(s) to drop into the cylinder and be damaged by the moving piston. Valve pieces might damage the piston, cylinder liner and the fuel injection valve. The damaged valve pieces may end up in the turbine, damaging the nozzle ring and the rotor.

Solution

MAN Diesel & Turbo has designed the valve bridge guide to eliminate the risk of suffering extensive damage to the cylinder unit. It will guide the valve bridge in cases where the valve bridge would otherwise have turned. The guide must be fitted to the top of the fuel valve bracket and this can be done without disassembling the cylinder head.

Countermeasures

The retrofit solution ensures full guidance during operation regardless of the valve spindle position.

Installation of guide clamp, one for each cylinder

Work card 508-01.20, which is enclosed, describes the installation of the valve bridge guide.

Description Page 1 (3)	Ordering of spare parts	500.50 Edition 03
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**L16/24, L23/30H, V28/32S, L21/31, L27/38, L28/32DF, L23/30DF, L16/24S,
L21/31S, L23/30S, L27/38S, L28/32S**

Ordering of spare parts

Spare parts can be ordered from MAN Diesel & Turbo, PrimeServ.

When spare parts are ordered or inquired, the following data must be indicated, in order to ensure correct identification of the required parts:

- Name of customer
- Name of plant /vessel
- Vessel IMO No
- Engine type
- Engine serial No
- Engine builder
- Plate No and edition No
- Item No
- Quantity
- Designation of the item No

Note:

- Components from different engine builders cannot be considered as interchangeable.
- A wide number of spare parts can be orders as spare part kits.
- Selected components may be available in both original and upgraded version.

These data are necessary to ensure supply of the correct spare parts for a particular engine, even though the spare part illustrations contained in this book may not always be in complete accordance with the individual components of a specific engine.

For ordering of spare parts for governor, turbocharger and alternator, please see the special chapter in the instruction book for these components.

<p>500.50 Edition 03</p>	<p>Ordering of spare parts</p>	<p>Description Page 2 (3)</p>
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L16/24, L23/30H, V28/32S, L21/31, L27/38, L28/32DF, L23/30DF, L16/24S, L21/31S, L23/30S, L27/38S, L28/32S

Information found on the nameplate of the engine(s)

Example:

Name of customer	Name of Plant/Vessel	IMO No	Engine type	Engine serial No	Engine builder
Mercy Ship	Africa Mercy	L7803188	5L21/31	SB5L21-10799	MAN Diesel & Turbo or Licensee

Information found on each plate at the instruction manual:

Plate No	Edition No	Item No	Qty.	Description
51435	13	440	1	Leak oil pipe

MAN Diesel & Turbo

Plate Page 1 (2)	Fuel Injection Pump Connections	51435-13
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L21/31

MAN Diesel & Turbo

51435-13	Fuel Injection Pump Connections	Plate Page 2 (2)
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L21/31

Item no	Qty	Designation	Beskrivelse	Item no	Qty	Designation	Beskrivelse
025	3/E	Cylindrical screw	Cylindrisk skrue	440	1/E	Leak oil pipe	Lækagerør
037	1/E	Connection socket	Forbindelseblok	452	1/E	Plate	Plade
049		Seal ring	Tætningring	464	2/E	Screw	Skrue
	22/E	5 cyl. engine	5 cyl. motor				
	26/E	6 cyl. engine	6 cyl. motor	476	3/E	Screw	Skrue
	30/E	7 cyl. engine	7 cyl. motor				

Description Page 3 (3)	Ordering of spare parts	500.50 Edition 03
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L16/24, L23/30H, V28/32S, L21/31, L27/38, L28/32DF, L23/30DF, L16/24S,
L21/31S, L23/30S, L27/38S, L28/32S

Name of Customer	Name of Plant/Vessel	IMO No
Engine Type	Engine No	Engine Builder

Plate No	Edition No	Item No	Designation of the Item No	Qty

For ordering or inquiry for items in free text, kindly contact MAN PrimeServ Holeby at: +45 54 69 31 00 or via e-mail PrimeServ-hol@mandieselturbo.com

L27/38, L27/38S

<p>Safety precautions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Engine stopped <input checked="" type="checkbox"/> Shut-off starting air <input type="checkbox"/> Shut off cooling water <input type="checkbox"/> Shut off fuel oil <input type="checkbox"/> Shut-off cooling oil <input type="checkbox"/> Stop lub. oil circulation <input checked="" type="checkbox"/> Press Blocking - Reset <p>Short Description</p> <p>Starting Position</p> <p>Related Procedure</p> <p>Qualified Manpower</p> <p>Duration in h : 1/2 Number : 1</p> <p>Data</p> <p>Data for pressure and tolerance (Page 500.35) Data for tightening torque (Page 500.40) Declaration of weight (Page 500.45)</p>	<p>Special tools</p> <table border="1"> <thead> <tr> <th>Plate No.</th> <th>Item No.</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>Hand Tools</p> <p>6.8 mm drill M8 screw tap and tap wrench</p> <p>Replacement and wearing parts</p> <table border="1"> <thead> <tr> <th>Plate No.</th> <th>Item No.</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Plate No.	Item No.	Note				Plate No.	Item No.	Quantity			
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<p>508-01.20 Edition 02</p>	<p>Installation of valve bridge guide</p>	<p>Work Card Page 2 (2)</p>
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L27/38, L27/38S



- 5) Due to forging tolerances it may be necessary to bend the legs of the valve bridge guide in order to achieve correct mounting.
- 6) Clearance between legs and valve bridge should be 0,4 mm at each side.

Guide for valve bridge (retrofit)

- 1) Remove the fuel valve bracket (pos A) .
- 2) Drill the 2 x M8 thread holes in the fuel valve thrust piece (outside the engine).
 - Drilling depth 23 mm
 - Thread depth 18 mm
- 3) Fit the fuel valve bracket (pos A) with the two M16 nuts (pos B).
Tighten torque for the two M16 nuts is 115 Nm.
MH to be used for assembly.
MH = High temperature lubricating paste above.
 - 200° C
 - Coefficient of friction 0.08 - 0.12
 - e.g. molykote paste HCS or copaslip

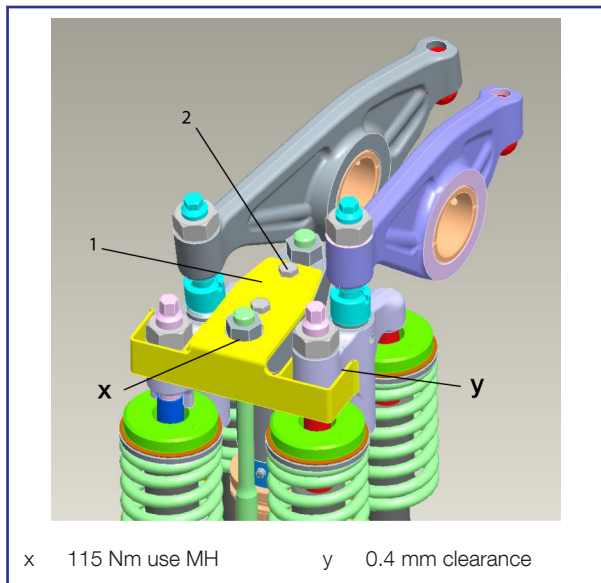


Figure 2: Guide for valve bridge

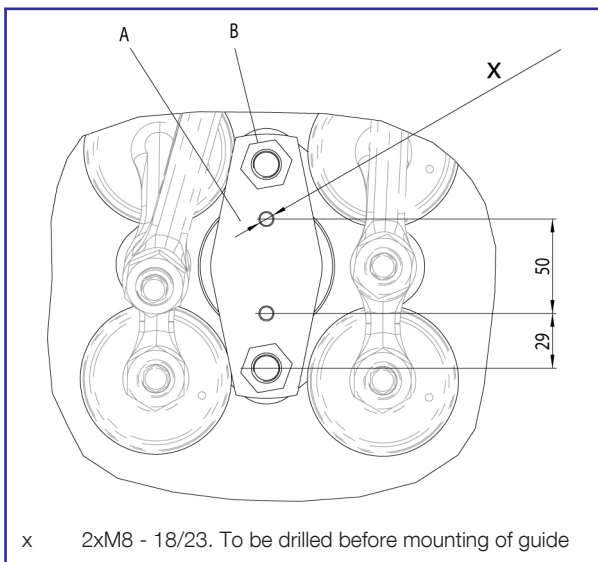
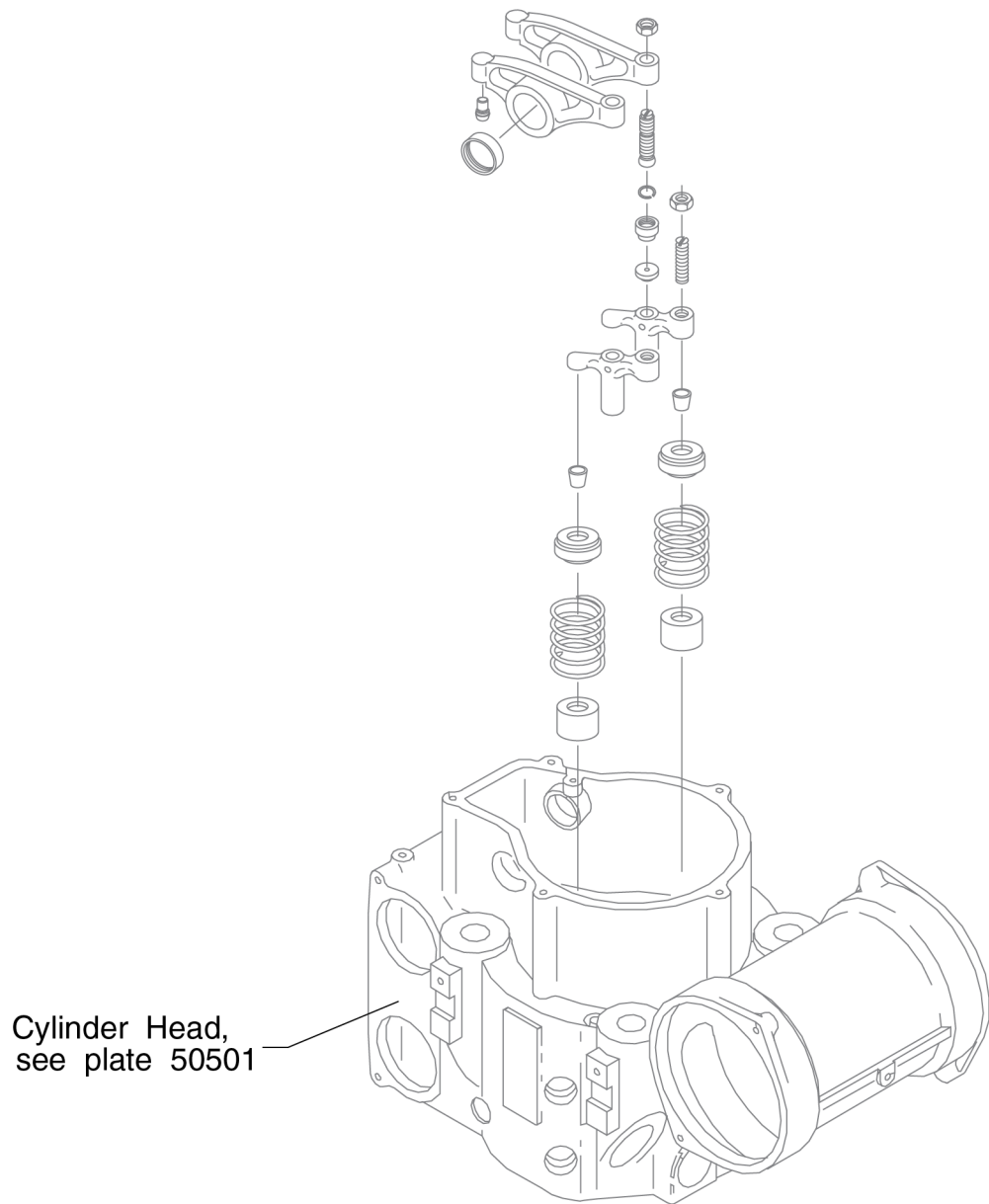
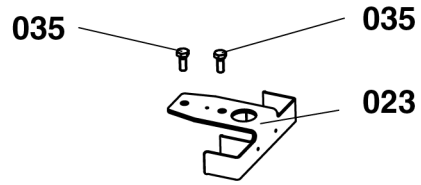


Figure 1: Fuel valve bracket

- 4) Fit the valve bridge guide (item 1), on the top of thrust piece with the two M8 bolts (item 2).



P50504-02	Guide for valve bridge	Plate Page 2 (2)
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L27/38

Item No.	Qty	Item Designation	Item No.	Qty	Item Designation
023	1/C	Guide			
035	2/C	Screw			

When ordering spare parts, see also page 500.50/600.50/Preface.

* = Only available as part of a spare parts kit/not available separately

Qty/C = **Qty/Cylinder**