

Action code: AT FIRST OPPORTUNITY**Cylinder Head**

(broken studs / incorrect type of nuts)

SL11-551/MIKA

December 2011

Concerns

Owners and operators of MAN Diesel & Turbo four-stroke diesel engines.

Type: L23/30H engines

Dear Sirs

We have experienced broken studs for the rocker arm arrangement on cylinder heads installed on L23/30H engines. In the majority of cases, the rocker arm arrangement was found with loose nuts for the rocker arm bracket. In worst case scenario, the loose nuts may lead to broken studs and the rocker arm arrangement will fall apart, causing damage to the cylinder head.

After thorough investigations we have concluded that the loosening of the nuts and thereby risk of broken studs is caused by incorrect type of nut. The nuts, which are described in this Service Letter, are Item 279, Plate 50501-10H. Standard self-locking nylon nuts have been used instead of special MAN Diesel & Turbo nuts with larger contact face, please see next page.

Yours faithfully

Enclosed:

Plate 50501-10H

Plate 50502-01H

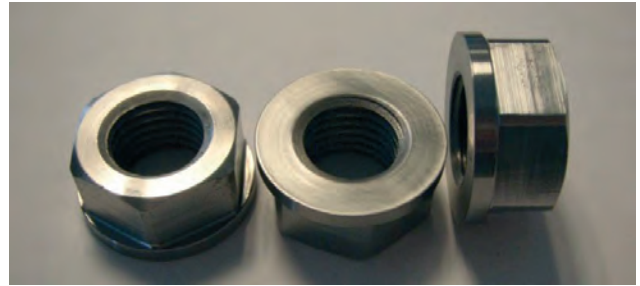

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Wrong type of nut



Correct type of nut



MAN Diesel & Turbo recommends to inspect the engine to establish which type of nuts are installed. If the nuts are of standard self-locking type, the nuts should be replaced to standard MAN Diesel & Turbo nuts.

When the nuts are replaced to standard MAN Diesel & Turbo nuts, the bracket should be inspected, because when using the standard self-lock nut, it will loosen and make contact marks on top of the bracket, Item 178, Plate 50502-01H. The markings need to be polished so the new nut will have 100 % contact with the bracket after tightening according to the MAN Diesel & Turbo Instruction Manual.

The bottom of the bracket and the cylinder head surface should also be inspected for fretting and markings. The bracket has a machined surface of 0.5 mm depth in the middle of the bottom to avoid movement after tightening. If the nuts have been loose, the bracket may have moved and worn the jointing surfaces, where the bracket should rest on after tightening. If the jointing surfaces are worn down, the bracket should be replaced.



Bracket to be replaced

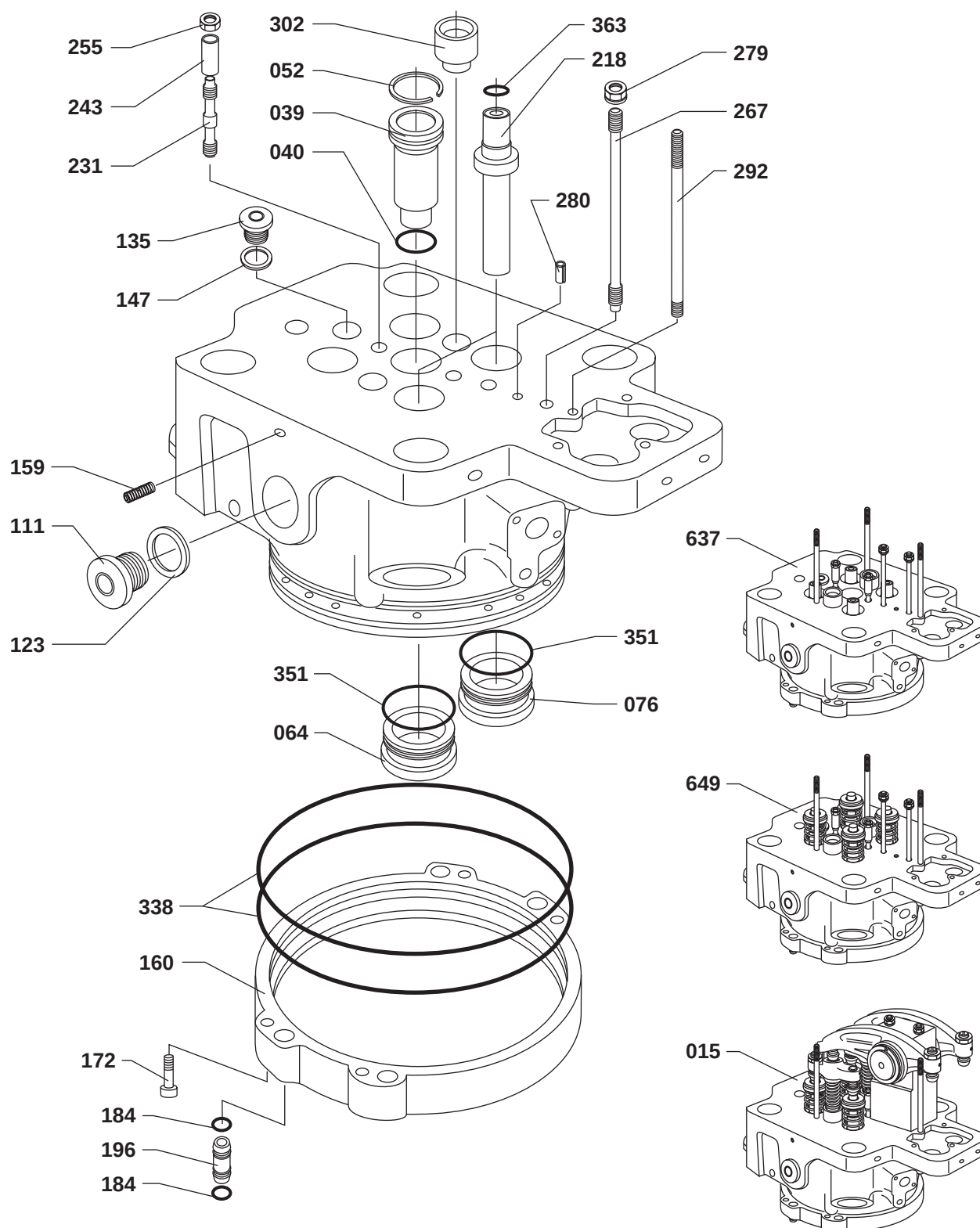


Bracket OK for reuse



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L23/30H



50501-10H

Cylinder Head

Plate
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L23/30H

Item No.	Qty.	Designation	Benævnelse	Item No.	Qty.	Designation	Benævnelse
015	1/C	Cylinder head (as 649) with brackets and rocker arms installed	Cylinderdæksel (som 649) monteret med bukke og vippearne.	363	4/C	O-ring	O-ring
039	1/C	Sleeve	Foring	637	1/C	Cylinder head with valve guide sleeve for fuel valve and valve seat rings	Cylinderdæksel monteret med spindelstyr, foring for br. ventil og ventilsæderinge
040	1/C	O-ring	O-ring	649	1/C	Cylinder head (as 637) with valve spindles, spring and rotocap installed	Cylinderdæksel (som 637), monteret med ventilspindler, fjeder og rotocap
052	1/C	Snap ring	Låsering				
064	2/C	Valve seat ring, (inlet)	Ventilsædering, (indstrømning)				
076	2/C	Valve seat ring, (exhaust)	Ventilsædering, (udstødning)				
111	2/C	Plug screw	Propskrue				
123	2/C	Sealing ring	Tætningsring				
135	8/C	Plug screw	Propskrue				
147	8/C	Sealing ring	Tætningsring				
159	2/C	Spring pin	Fjederstift				
160	1/C	Water guide jacket	Kølekappe				
172	4/C	Screw	Skrue				
184	8/C	O-ring	O-ring				
196	4/C	Cooling water connection	Kølevandsovergang				
218	4/C	Valve Guide	Ventilstyr				
231	2/C	Stud	Tap				
243	2/C	Distance pipe	Afstandsstykke				
255	2/C	Nut	Møtrik				
267	2/C	Stud	Tap				
279	2/C	Nut	Møtrik				
280	1/C	Spring pin	Fjederstift				
292	3/C	Stud	Tap				
302	2/C	Thrust piece	Trykstykke				
338	2/C	O-ring	O-ring				
351	4/C	O-ring	O-ring				

When ordering spare parts, see also page 500.50.

* = Only available as part of a spare parts kit.
Qty./C = Qty./Cylinder

Ved bestilling af reservedele, se også side 500.50.

* = Kun tilgængelig som en del af et reservedelssæt.
Antal/C = Antal/Cylinder

50502-01H

Valve Spindles and Valve Gear

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L23/30H

Item no.	Qty.	Designation	Benævnelse	Item no.	Qty.	Designation	Benævnelse
010	2/C	Valve bridge, compl. incl. item 022, 034, 046, 071, 083, 095, 105, 117, 129 and 130	Ventilbro komplet inkl. item 022, 034, 046, 071, 083, 095, 105, 117, 129 og 130	490	4/C	Outer spring	Udvendig fjeder
022	2/C	Valve bridge	Ventilbro	512	4/C	Valve spindle, inlet and outlet	Ventilspindel, inds. og uds.
034	2/C	Spring	Fjeder	524	28/C	Spring	Fjeder
046	2/C	Ball guide	Kuglestyr	536	28/C	Ball	Kugle
071	2/C	Thrust piece	Trykstykke	548	4/C	Spring washer	Fjederskive
083	2/C	Thrust screw	Trykskrue	573	2/C	Bearing bush	Lejebøsning
095	4/C	Nut	Møtrik	585	4/C	Retainer ring	Låsering
105	4/C	Thrust piece	Trykstykke	607	1/C	Rocker arm shaft	Aksel for vippearm
117	4/C	Circlip	Fjederring	619	4/C	Ball race	Kugleplade
129	2/C	Thrust piece	Trykstykke				
130	4/C	Spring pin	Fjederstift				
178	1/C	Rocker arm bracket	Buk for vippearm				
201	1/C	Plug	Prop				
237	1/C	Rocker arm, exhaust, compl. incl. item 095, 249, 262, 286, 298, 585	Vippearm udst. komplet inkl. item 095, 249, 262, 286, 298 og 585				
249	1/C	Rocker arm, exhaust	Vippearm, udstødning				
262	4/C	Plug	Prop				
286	2/C	Thrust piece	Trykstykke				
298	2/C	Thrust screw	Trykskrue				
345	1/C	Rocker arm inlet, complete incl. item 095, 249, 262, 286, 298, 585	Vippearm inds. komplet inkl. item 095, 249, 262, 286, 298 og 585				
357	1/C	Rocker arm, inlet	Vippearm, indsugning				
441	2/C	Disc	Skive				
453	2/C	Securing ring	Sikringsring				
465	4/C	Conical ring in 2/2	Konisk ring 2/2				
477	4/C	Rotocap, compl.	Rotationsgiver, komplet				
489	4/C	Inner spring	Indvendig fjeder				

When ordering spare parts, see also page 500.50.

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Qty./I = Qty./Individual

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Antal/C = Antal/Cylinder
Antal/I = Antal/Individuelt