



Dear Sirs

Since the introduction of the T23 engines in the 1970s, more than 10,000 engines have entered into service. During this period, the engine type has gradually undergone continuous development in order to comply with today's fuel oil and to further enhance the reliability of the engines.

The purpose of this Service Letter is to inform the ship operators about the possibilities of retrofitting the modified components to their vessel in service.

### Introduction

The cylinder condition depends on several factors and the aim of the design modification is to reduce the influence of these factors, eg. high lubricating oil consumption (SLOC) and contamination of the lube oil.

Before introduction of any new designs we recommend a thorough investigation of the causes of any irregular cylinder condition. It is essential that the cylinder liner and the piston ring grooves are within the limits of our recommendation.

In this regard, before taking decisions, we recommend that MAN PrimeServ in Holeby is contacted.

To facilitate ordering of the piston rings, we enclose spare part plates and kits, as listed in right box, which can be used for ordering purposes.

Yours faithfully

**Steen Hansen**

Superintendent  
Technical Service  
PrimeServ Holeby

**Jørgen P. Nielsen**

Senior Manager  
Head of Technical Service  
PrimeServ Holeby

Action code: **When convenient**

## Cylinder Condition

June 2010  
SL10-535/SNH

### Concerns

Owners and Operators of MAN  
Four-stroke Diesel Engines Type  
L23/30 and L23/30H  
in range 720-900 RPM.

### Spare Part Plates enclosed

Plate 30701-24H valid for  
L23/30H, 720/750 rpm

Plate 30701-25H valid for  
L23/30

Plate 50601-05H valid for  
L23/30H, 720/750 rpm

Plate 50601-06H valid for  
L23/30H, 900 rpm

### Kits enclosed

Kit 51706-04 valid for  
L23/30 and L23/30H, 720/750 rpm

Kit 51706-05 valid for  
L23/30H, 900 rpm

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#### MAN Diesel & Turbo

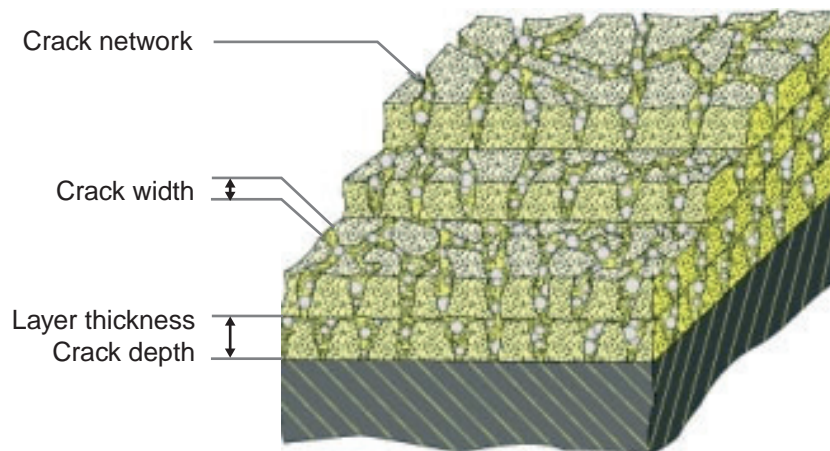
Branch of MAN Diesel & Turbo SE, Germany  
CVR No.: 31611792  
Head office: Tegholmegade 41  
2450 Copenhagen SV, Denmark  
German Reg.No.: HRB 22056  
Amtsgericht Augsburg

## Cylinder condition

### 1 Improved Piston Ring Package

- 1.1 The top piston ring can be replaced with a new type of piston ring with a chromium ceramic coating and additional coating on the side faces.

The new piston ring can be installed after modification of the piston, see below.



*Schematic of Chromium Coatings Reinforced with Hard Particles.*

- 1.2 The rings for groove Nos 2 and 3 can be replaced with new type of rings with a chromium ceramic coating.

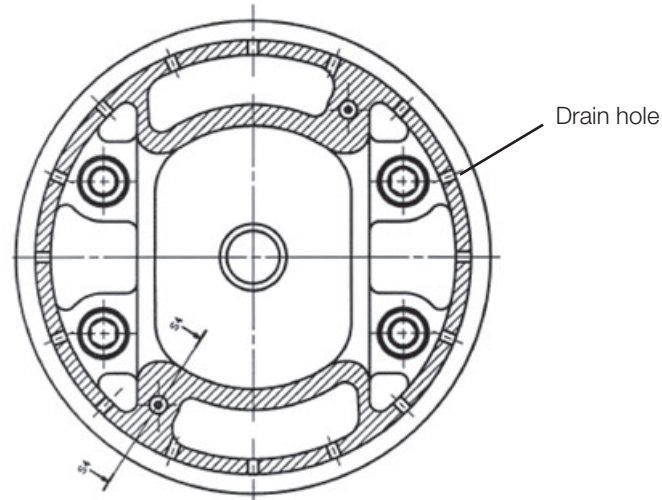
The new rings give excellent gas sealing, which counteracts blow by from the combustion, entering into the lubricating oil sump.

The ring material for the new compression rings are made of low-alloyed heat treated nodular cast-iron. This material is characterised by a high bending strength and a high modulus of elasticity.

- 1.3 The oil scraper ring will remain the same type.

## 2 Piston modification

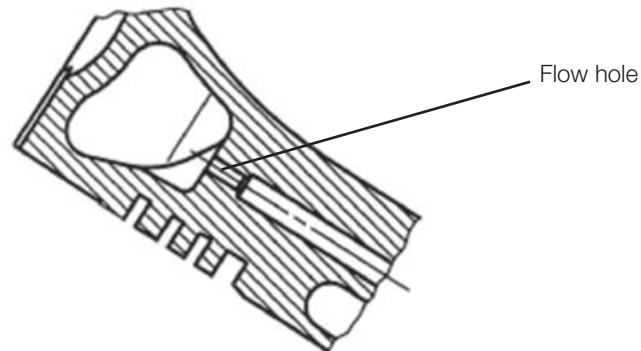
- 2.1 Before mounting of the new rings, the piston must be modified in the ring groove for the oil scraper ring with additional holes.



*Piston drainage*

To improve the drainage from the ring groove for oil scraper ring, an increased number of holes have to be drilled, ie. 16 drain holes all in all.

- 2.2 The lube oil bore to the cooling chambers in the piston top must be modified, enabling an increased flow through the piston, too.



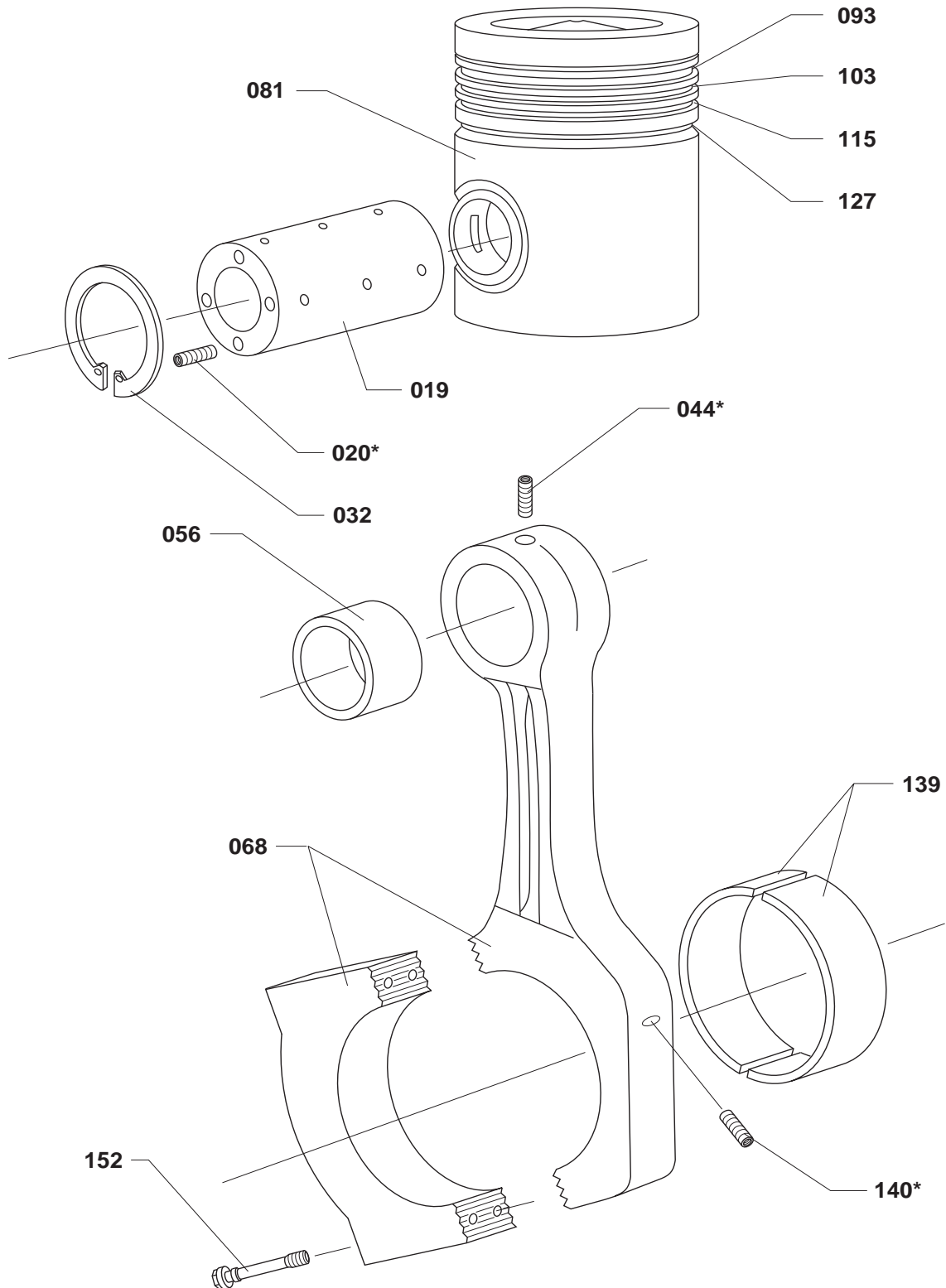
*Increased hole diameter for the oil flow to the cooling chamber*

We recommend modification of the pistons to be carried out at one of our worldwide service centres, alternatively modified pistons may be available on exchange basis from our stock.

Please contact MAN Primeserv in Holeby for further information and availability for modification on your engines.

Plate Page 1 (2)	<b>Piston and Connecting Rod</b>	<b>30701-24H</b>
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**L23/30H**  
720/750 RPM



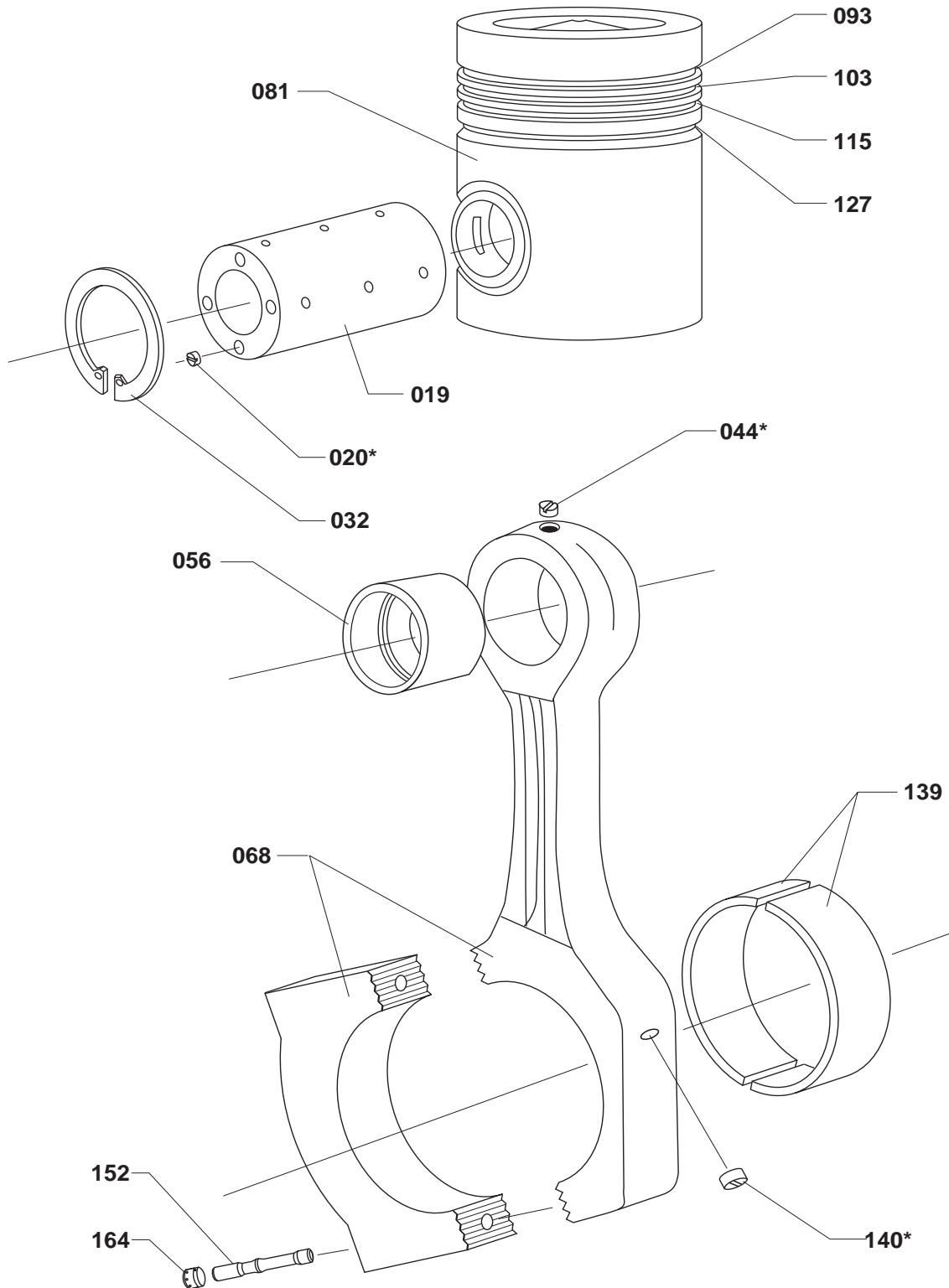
**30701-24H****Piston and Connecting Rod**Plate  
Page 2 (2)**L23/30H**  
**720/750 RPM**

Item No.	Qty.	Designation	Benævnelse	Item No.	Designation	Benævnelse
019	1/C	<b>Piston pin incl. item No 020</b>	Stempelpind inkl. pos. nr. 020			
020*	4/C	<b>Socket screw</b>	Kraterskrue			
032	2/C	<b>Retaining ring</b>	Sikringsring			
044*	1/C	<b>Plug screw</b>	Propskrue			
056	1/C	<b>Bush for connecting rod</b>	Plejlstangs-bøsning			
068	1/C	<b>Connecting rod incl. item Nos 044, 056, 152, 140</b>	Plejlstang inkl. pos. nr. 044, 056, 152, 140			
081	1/C	<b>Piston</b>	Stempel			
093	1/C	<b>Piston ring</b>	Stempelring			
103	1/C	<b>Piston ring</b>	Stempelring			
115	1/C	<b>Piston ring</b>	Stempelring			
127	1/C	<b>Oil scraper ring</b>	Olieskrabering			
139	1/C	<b>Connecting rod bearing 2/2</b>	Plejlstangs-leje 2/2			
140*	1/C	<b>Plug screw</b>	Propskrue			
152	4/C	<b>Screw for connecting rod</b>	Plejlstangs-skrue			

Ved bestilling af reservedele, se også side 500.50.

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

**L23/30  
T23L**



**30701-25H****Piston and Connecting Rod (Hydraulic Tightened)**Plate  
Page 2 (2)**L23/30  
T23L**

Item No.	Qty.	Designation	Benævnelse	Item No.	Qty.	Designation	Benævnelse
019	1/C	<b>Piston pin incl. item No 020</b>	Stempelpind inkl. pos. nr. 020				
020*	4/C	<b>Socket screw</b>	Kraterskrue				
032	2/C	<b>Retaining ring</b>	Sikringsring				
044*	1/C	<b>Plug screw</b>	Propskrue				
056	1/C	<b>Bush for connecting rod</b>	Plejlstangs-bøsning				
068	1/C	<b>Connecting rod incl. item Nos 044, 056, 140, 152 and 164</b>	Plejlstang inkl. pos. nr. 044, 056, 140, 152 og 164				
081	1/C	<b>Piston</b>	Stempel				
093	1/C	<b>Piston ring</b>	Stempelring				
103	1/C	<b>Piston ring</b>	Stempelring				
115	1/C	<b>Piston ring</b>	Stempelring				
127	1/C	<b>Oil scraper ring</b>	Olieskrabering				
139	1/C	<b>Connecting rod bearing 2/2</b>	Plejlstangs-leje 2/2				
140*	1/C	<b>Plug screw</b>	Propskrue				
152	2/C	<b>Connecting rod stud</b>	Plejlstangs-bolt				
164	2/C	<b>Nut</b>	Møtrik				

When ordering spare parts, see also page 500.50.

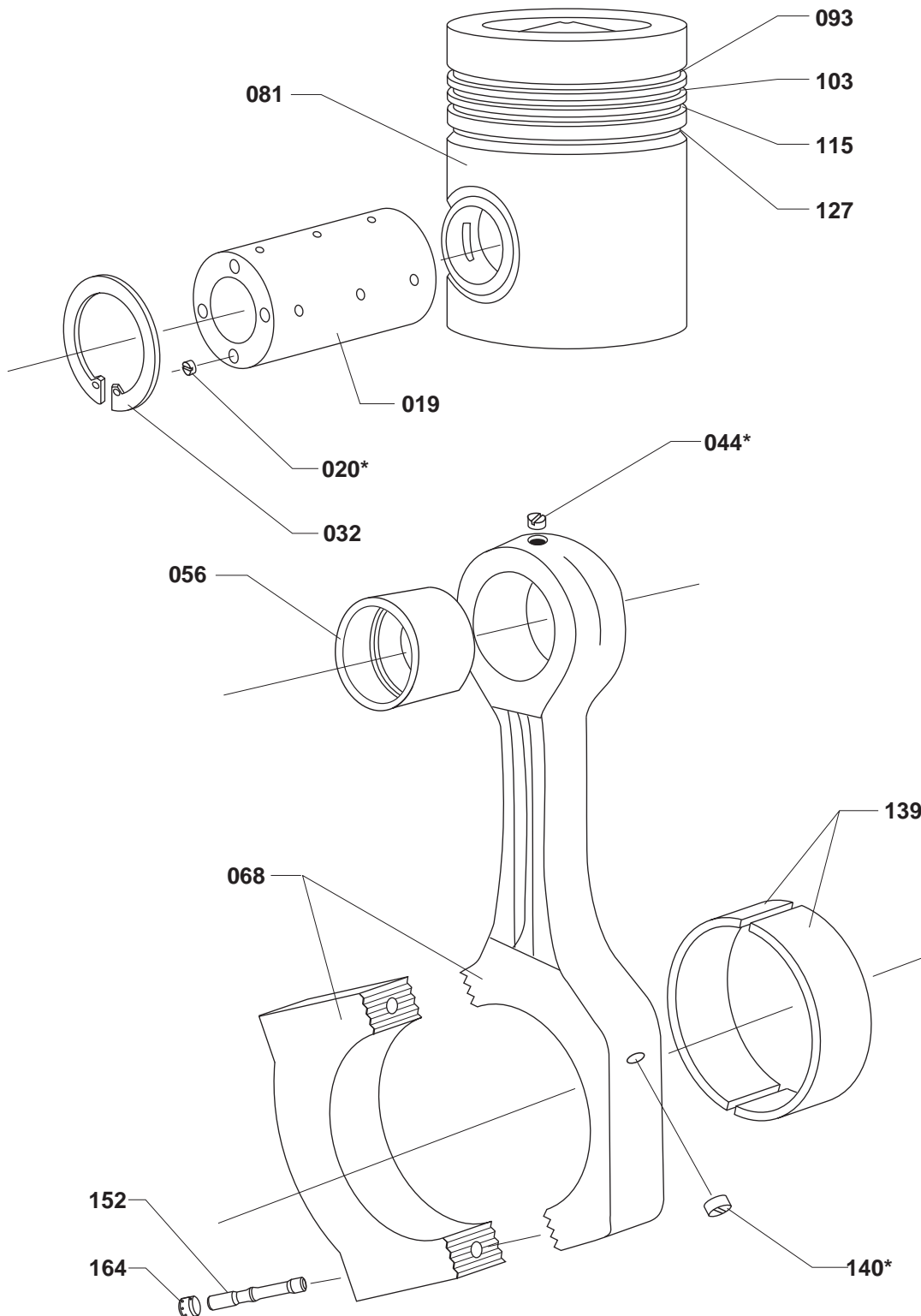
Ved bestilling af reservedele, se også side 500.50.

\* = Only available as part of a spare parts kit.  
Qty./C = Qty./Cylinder\* = Kun tilgængelig som en del af et reservedelssæt.  
Antal/C = Antal/Cylinder

**Piston and Connecting Rod (Hydraulic Tightened)**

**50601-05H**

**L23/30H**  
**720/750 RPM**





**50601-05H****Piston and Connecting Rod (Hydraulic Tightened)**Plate  
Page 2 (2)**L23/30H**  
**720/750 RPM**

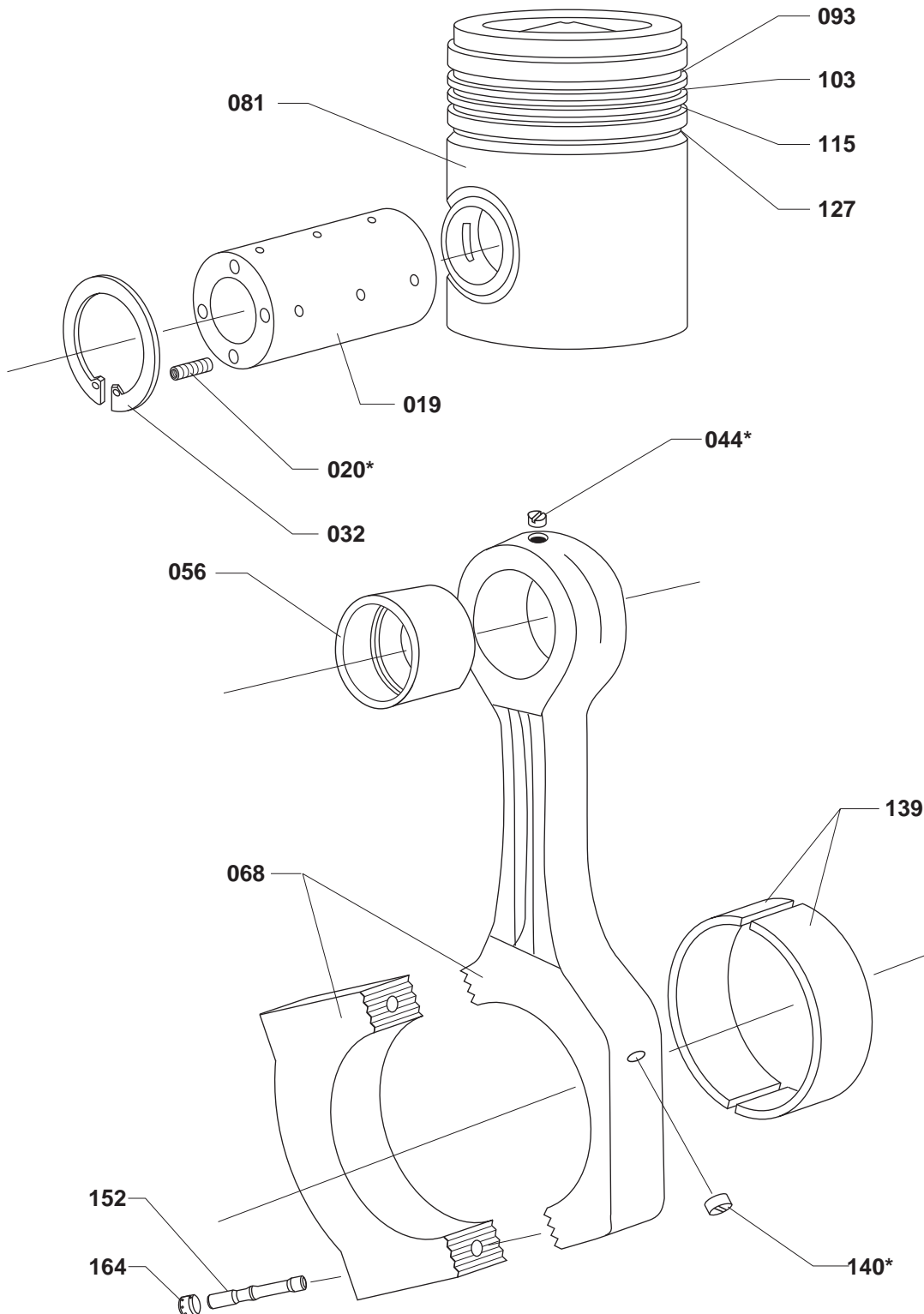
Item No.	Qty.	Designation	Benævnelse	Item No.	Qty.	Designation	Benævnelse
019	1/C	<b>Piston pin incl. item No 020</b>	Stempelpind inkl. pos. nr. 020				
020*	4/C	<b>Socket screw</b>	Kraterskrue				
032	2/C	<b>Retaining ring</b>	Sikringsring				
044*	1/C	<b>Plug screw</b>	Propskrue				
056	1/C	<b>Bush for connecting rod</b>	Plejlstangs-bøsning				
068	1/C	<b>Connecting rod incl. item Nos 044, 056, 140, 152 and 164</b>	Plejlstang inkl. pos. nr. 044, 056, 140, 152 og 164				
081	1/C	<b>Piston</b>	Stempel				
093	1/C	<b>Piston ring</b>	Stempelring				
103	1/C	<b>Piston ring</b>	Stempelring				
115	1/C	<b>Piston ring</b>	Stempelring				
127	1/C	<b>Oil scraper ring</b>	Olieskrabering				
139	1/C	<b>Connecting rod bearing 2/2</b>	Plejlstangs-leje 2/2				
140*	1/C	<b>Plug screw</b>	Propskrue				
152	2/C	<b>Connecting rod stud</b>	Plejlstangs-bolt				
164	2/C	<b>Nut</b>	Møtrik				

When ordering spare parts, see also page 500.50.

Ved bestilling af reservedele, se også side 500.50.

\* = Only available as part of a spare parts kit.  
Qty./C = Qty./Cylinder\* = Kun tilgængelig som en del af et reservedelssæt.  
Antal/C = Antal/Cylinder

**L23/30H**  
900 RPM



**50601-06H****Piston and Connecting Rod (Hydraulic Tightened)**Plate  
Page 2 (2)**L23/30H**

900 RPM

Item No.	Qty.	Designation	Benævnelse	Item No.	Qty.	Designation	Benævnelse
019	1/C	Piston pin incl. item No 020	Stempelpind inkl. pos. nr. 020				
020*	4/C	Socket screw	Kraterskrue				
032	2/C	Retaining ring	Sikringsring				
044*	1/C	Plug screw	Propskrue				
056	1/C	Bush for connecting rod	Plejlstangs- bøsning				
068	1/C	Connecting rod incl. item Nos 044, 056, 140, 152 and 164	Plejlstang inkl. pos. nr. 044, 056, 140, 152 og 164				
081	1/C	Piston	Stempel				
093	1/C	Piston ring	Stempelring				
103	1/C	Piston ring	Stempelring				
115	1/C	Piston ring	Stempelring				
127	1/C	Oil scraper ring	Olieskrabering				
139	1/C	Connecting rod bearing 2/2	Plejlstangs- leje 2/2				
140*	1/C	Plug screw	Propskrue				
152	2/C	Connecting rod stud	Plejlstangs- bolt				
164	2/C	Nut	Møtrik				

When ordering spare parts, see also page 500.50.

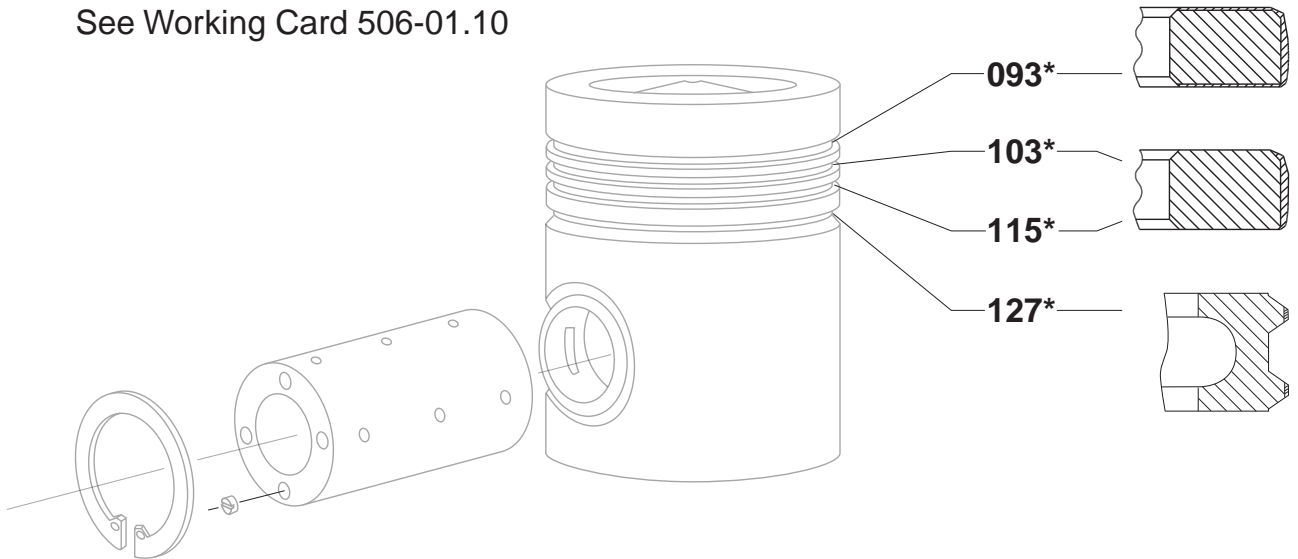
Ved bestilling af reservedele, se også side 500.50.

\* = Only available as part of a spare parts kit.  
Qty./C = Qty./Cylinder\* = Kun tilgængelig som en del af et reservedelssæt.  
Antal/C = Antal/Cylinder

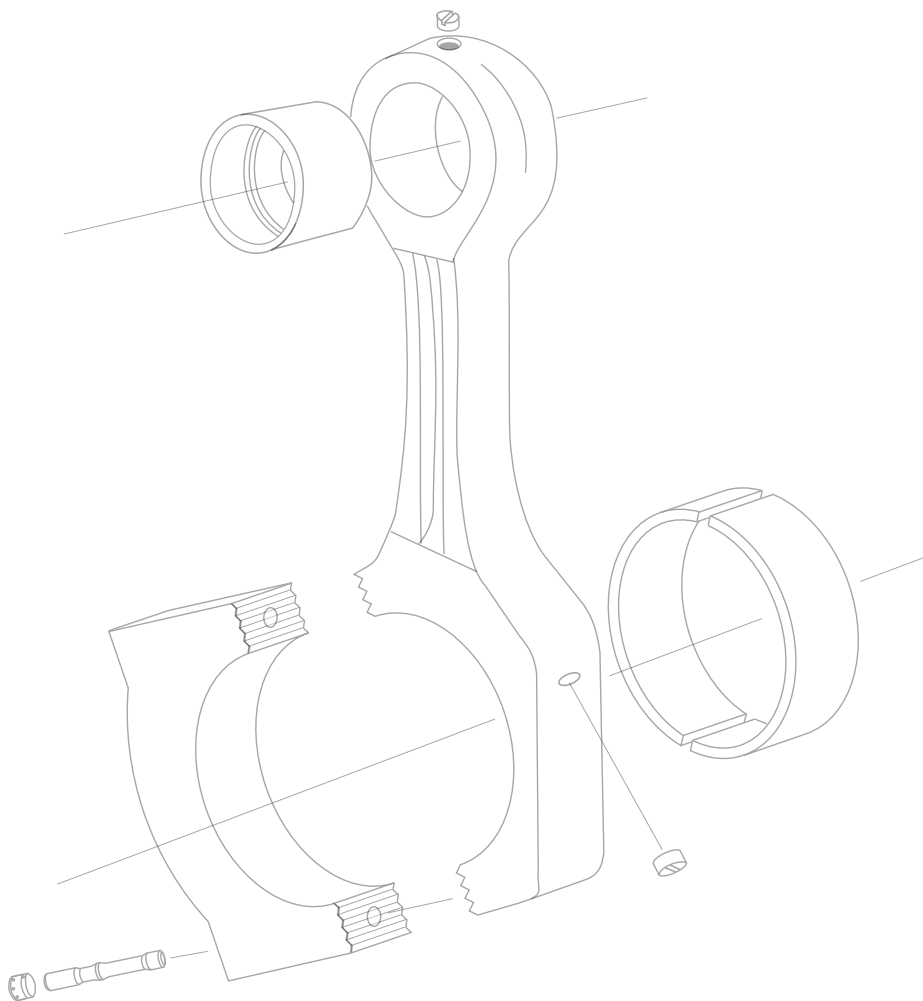
Kit Page 1 (2)	<b>Kit for renewal of Piston Rings</b>	<b>51706-04</b>
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**L23/30H**  
**720/750 RPM**

See Working Card 506-01.10



\* Please order item 036



<b>51706-04</b>	<b>Kit for renewal of Piston Rings</b>	Kit Page 2 (2)
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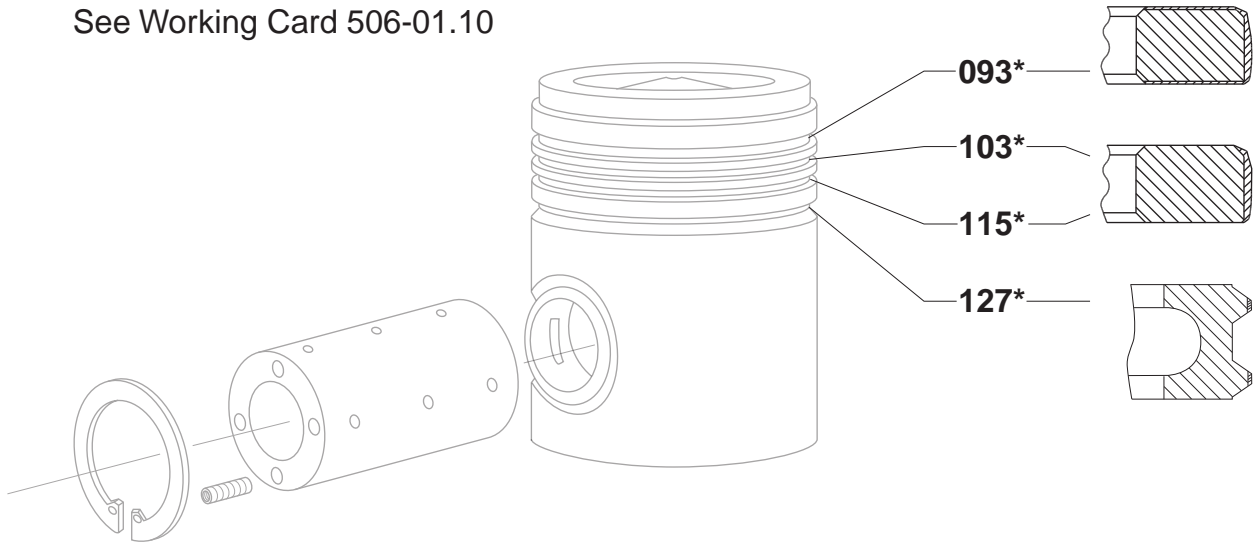
**L23/30H**  
**720/750 RPM**

Item No	Qty	Designation	Where to find in the engine instruction book	
036	1/C	Kit for renewal of piston rings, incl item 093, 103, 115, and 127	Plate 50601	
	1/C	Piston ring	Plate 50601	Item 093
	1/C	Piston ring	Plate 50601	Item 103
	1/C	Piston ring	Plate 50601	Item 115
	1/C	Oil scraper ring	Plate 50601	Item 127
<p><i>Please Note</i> that this is a kit supply, and that any exceeding number of o-rings and gaskets are not accepted as return goods.</p>				

Qty/C = Qty/Cylinder

**L23/30H**  
**900 RPM**

See Working Card 506-01.10



\* Please order item 048

<b>51706-05</b>	<b>Kit for renewal of Piston Rings and Flame Ring</b>	Kit Page 2 (2)
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**L23/30H**  
**900 RPM**

Item No	Qty	Designation	Where to find in the engine instruction book	
048	1/C	Kit for renewal of piston rings and flame ring, incl item 092, 093, 103, 115, and 127	Plate 50601 and 50610	
	1/C	Piston ring	Plate 50601	Item 093
	1/C	Piston ring	Plate 50601	Item 103
	1/C	Piston ring	Plate 50601	Item 115
	1/C	Oil scraper ring	Plate 50601	Item 127
	1/C	Flame ring	Plate 50610	Item 092
<p><i>Please Note</i> that this is a kit supply, and that any exceeding number of o-rings and gaskets are not accepted as return goods.</p>				

Qty/C = Qty/Cylinder