

Engine Spare Parts Catalogue

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Product type	W5L20
Product number	20658, 20659, 20660

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Product type 5L20

Product number: 20658, 20659, 20660

000 Overhaul spare part sets

Section	Description	Valid for Products
912-0003A	Cylinder unit overhaul set	

100 Engine block, bearings, oil sump, covers

Section	Description	Valid for Products
100-0001K	Engine block	
100-003D	Oil sump, wet	
107-005G	Casings and covers	
107-007C	Pump cover assembly	
107-010B	Cover for cylinder head	
107-012E	Crankcase cover with relief valve	
107-013B	Crankcase cover with centrifugal filter	
107-016C	Casings, covers, end plates 5L20	
107-021A	Crankcase cover with oil filling opening and dipstick	
107-0066A	End cover	

110 Crankshaft, flywheel, connecting rod, piston

Section	Description	Valid for Products
110-002D	Crankshaft	
111-0001C	Connecting rod	20658
111-0002B	Connecting rod	20659, 20660
113-001C	Piston	
114-002A	Flywheel	

120 Cylinder head with valves

Section	Description	Valid for Products
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120-0001H	Cylinder head, complete
120-002F	Cylinder head
120-003A	Cylinder head equipment
121-001A	Exhaust valve assembly
121-004A	Inlet valve assembly
125-001C	Indicator valve

130 Intermediate gears

Section	Description	Valid for Products
131-001A	Intermediate gears for camshaft drive	
131-002A	Intermediate gear for lubricating oil pump	

140 Valve mechanism, camshaft

Section	Description	Valid for Products
143-001A	Rocker arms bracket	
145-001B	Valve tappet with guide block	20659, 20660
145-0003D	Valve tappet with guide block	20658
148-002D	Camshaft	

150 Charge air system

Section	Description	Valid for Products
156-019C	Charge air cooler assembly	
156-022A	Charge air pipe	
156-028D	Turbocharger bracket assembly	
156-033A	Heat shield	
156-0044J	Turbocharger	
156-0117B	Turbocharger manifold sealing kit	

160 Injection equipment, gas manifold

Section	Description	Valid for Products
165-0004E	Injection pump	
165-005A	Fuel oil system in Hot-box	
167-001C	High pressure connection piece	
167-006A	Injection pipe for long stroke injection pump	
167-0008C	Injection valve	20659, 20660

167-0009B	Injection pipe	
167-0012B	Injection valve	20658

180 Lubricating oil pumps, thermostatic valves

Section	Description	Valid for Products
181-001C	Lubricating oil pump	
182-001E	Lubricating oil pump module	
182-002E	Prelubricating oil pump	
182-0011A	Electric motor for prelubricating oil pump	
183-004B	Thermostatic valve for lubricating oil	

190 Cooling water pumps, thermostatic valves

Section	Description	Valid for Products
191-0001K	Water pump	
196-005C	Thermostatic valve for HT water	
196-009C	Thermostatic valve for LT water	

200 Exhaust manifold

Section	Description	Valid for Products
200-020C	Exhaust manifold 5L20	
205-0015F	Insulation box for exhaust manifold	

210 Starting equipment

Section	Description	Valid for Products
213-002A	Stop lever and end cover	
218-002D	Air starter	
218-007D	Starting air system	

220 Regulating mechanism

Section	Description	Valid for Products
220-0001A	Governor	
220-0008A	Connectors and cables for coverners	
223-0001C	Governor drive	
224-003B	Control shaft	
224-005A	Adjustable link rod	
228-001A	Pneumatic overspeed trip device	

228-002C Piping for pneumatic overspeed trip device

230 Speed measuring system

Section	Description	Valid for Products
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231-0003B	Speed measuring system	
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340 Thermostatic valves

Section	Description	Valid for Products
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349-001C	Non-return valve for lubricating oil pump module	
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349-002A	LT water pipe with throttle	
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350 Manifold (fuel, lube oil, cooling water, starting air etc.)

Section	Description	Valid for Products
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350-001E	Pulse damper for fuel oil	
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350-005B	Fuel oil piping, free end	
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352-001A	Lubricating oil piping in flywheel end	
----------	--	--

352-004A	Lubricating oil pipe, pump - module	
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352-006A	Lubricating oil pipe for water pumps	
----------	--------------------------------------	--

352-010B	Lubricating oil piping for camshaft driving gear (cw.)	
----------	--	--

352-016B	Oil piping to centrifugal filter	
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352-023A	Lubricating oil piping in free end	
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355-003G	Vent piping from mult ducts	
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355-0007D	Water pipes	
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355-028C	Cooling water piping on TC bracket assembly	
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358-001B	Leak oil pipe, dirty, flywheel end	
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358-002D	Leak oil piping for injection pump / valve, clean	
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370 Cleaning device, crankcase ventilation

Section	Description	Valid for Products
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372-019B	Cleaning device for compressor	
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372-022E	Washing device for turbine with flowmeter	
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372-026A	Cleaning device piping for turbine	
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378-001A	Sealing for crankcase breather	
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387-0001A	Glue compounds	20658
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470 Filters, coolers

Section	Description	Valid for Products
471-002A	Cover assembly	
471-008B	Lubricating oil module	
473-0001D	Centrifugal filter	
476-001B	Air cooler	

500 Transducers, instrument panel, thermometers

Section	Description	Valid for Products
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506-010B	Bracket with pressure switches	
506-013A	Temperature switch, HT-water	
507-013A	Cable module, switches and sensors	
507-015B	Cable module, transducer and sensors	
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507-021A	Equipment for pressure sensor	
508-007A	Lubricating oil level alarm switch	
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516-007A	Instrument panel	

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Section	Description	Valid for Products
600-003C	Bend and connections after turbocharger, TPS 48/52	
604-004B	Piping for separator	
604-009B	Connection for overflow pipe	
604-022A	Flexible hoses	
609-001A	Pressure reducing valve	
609-0004C	Pressure regulating valve	

800 Tools

Section	Description	Valid for Products
848-0002A	Fluid sample kit for vibration dampers	

848-0003A Pressure difference indicator for charge air cooler
884-0001B Miscellaneous tools

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Air cooler	476-001B

B

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Bracket for instrument panel and connecting box	516-001F
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Description	Section
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Crankcase cover with centrifugal filter	107-013B
Casings, covers, end plates 5L20	107-016C
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Cable module, transducer and sensors	507-015B
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Description	Section
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W

Description	Section
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1. Wärtsilä spare parts

By ordering spare parts from Wärtsilä, you receive latest-technology parts that have undergone extensive laboratory and field tests. Also, you can be sure that the parts you purchase comply with the classification your Wärtsilä product has to fulfil.

This document gives you instructions on how to order spare parts so that you receive the right parts fast and accurately.

The possible updates of this spare parts catalogue will be available in English at Wärtsilä Online Services. If not already connected to Online Services, see www.wartsila.com/services/support/onlineservices.

Wärtsilä Online Services also provide service bulletins and manual valid for your Wärtsilä equipment, and allow you to subscribe to e-mail notifications of the updates.

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2. Ordering spare parts

2.1 Where to order

Spare parts can be ordered 24/7 through our global service network or via Online Services. For more information, contact us or go to www.wartsila.com

2.2 Information needed in the order

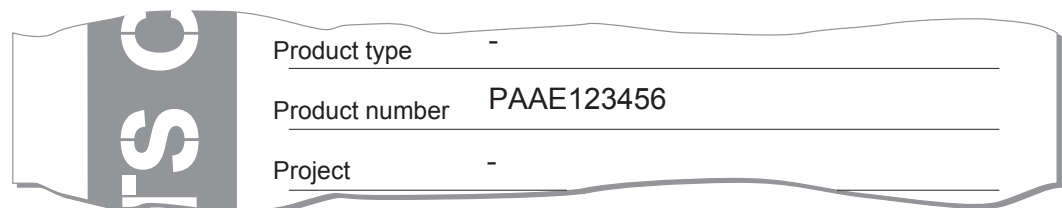
When ordering spare parts, include the following information in the order:

- Product type
- Product number(s)
- Spare part number
- Spare part description
- Spare part details (for example size or length)
- Quantity of parts
- Consignee
- Method of forwarding
- Purchaser

Spare parts are identified by the product type, product serial number and spare part number together, so make sure you give this information correctly in the order. You can find the spare part number, description and details in the spare parts catalogue sections.

2.2.1 Use the right spare parts catalogue

The spare parts catalogue (SPC) is unique for each product or product series you have purchased from Wärtsilä. You can find the serial numbers of the products that the SPC is valid for on the front page of the SPC.



The diagram shows a stylized representation of a spare parts catalogue (SPC) form. On the left, there is a vertical bar with a circular logo containing a stylized 'S' and a dollar sign. To the right of this bar, the form contains three fields:

Product type	-
Product number	PAAE123456
Project	-

Fig 2-1 Product number

To receive spare parts that are suitable for your product, make sure that you use the correct SPC and product number when ordering spare parts.

2.2.2 Find the right spare part information

Spare part catalogue sections

One spare parts catalogue (SPC) can be valid for a series of products. In that case, some sections in the SPC can be valid only for some of the products.

If there are multiple serial numbers on the SPC's front page, check from the table of contents which sections are valid for the product you are ordering spare parts for. In the table of contents, sections that are product-specific are marked with the product serial number in the "Valid for Products" column. If there are no serial numbers in that column, the section is valid for all the product serial numbers mentioned on the cover page of the spare part catalogue.

180 Lubricating oil pumps, thermostatic valves		
Section	Description	Valid for Products
181-0006C	Lubricating oil pump	PAAE000001
181-0008A	Lubricating oil pump	PAAE000002
182-0008E	Prelubricating oil pump	
182-0011A	Electric motor for prelubricating oil	
182-0012E	pump Prelubricating pump assembly	
182-0014A	Turning tool for prelubricating pump	
183-0009B	Thermostatic valve for lubricating oil	

Fig 2-2 Table of contents

Spare part information in the sections

The sections contain illustrations, tables and spare parts lists with small illustrations of the parts and unit or assembly locations.

The spare parts list contains spare part numbers (Part No), part descriptions (Description) and quantity (Qty). The quantity does not indicate the total number used in your product but the number found in the displayed unit or assembly.

Spare part numbers can be arranged in layers. This means that you can have a complete spare part number that includes other parts that are available separately.

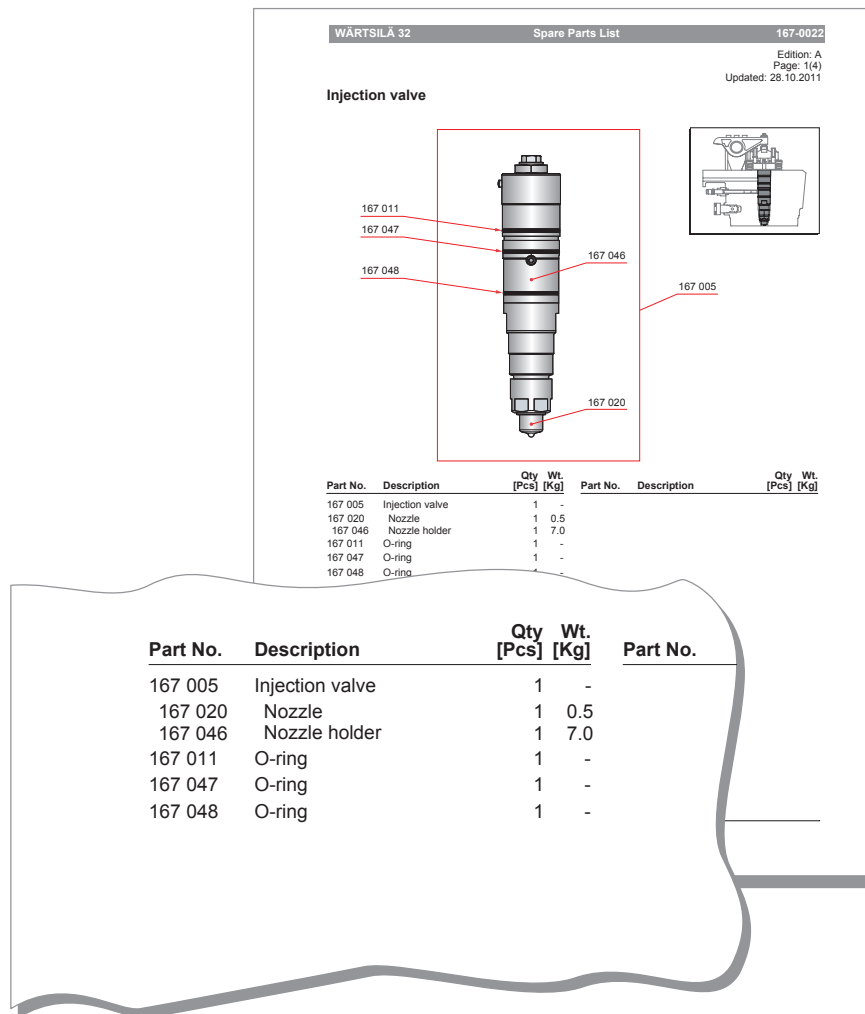


Fig 2-3 Spare part numbers

As shown in the figure, the spare part number 167 005 is for the complete injection valve inside the red rectangle. When ordering the complete injection valve 167 005, the spare parts 167 046 and 167 020 are included but you can also order them separately.

The parts numbers 167 011, 167 047 and 167 048 outside the red rectangle are not included when ordering the complete injection valve 167 005 or the spare parts 167 046 and 167 020.

NOTE



If the spare part section contains a note with additional information such as the length or size of the part, include this information in the order.

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3. Spare parts identification

Wärtsilä marks the spare parts they deliver with details that help you identify which part goes to which product. This is useful especially if you have several Wärtsilä products of the same type but belonging to different series, design or generation and when you keep stock of the spare parts.

The spare parts identification information includes:

- Spare part name (Description)
- Spare part number (Code no.)
- Extended part number (EPN)
- Order number (Order no.)
- Product serial numbers (Engine type/no.)
- Quantity of the parts ordered (Quantity)

ORIGINAL PARTS	DESCRIPTION SPARE PART NAME		LINE
	CODE NO. SPARE PART NO.	PART NO. XXX	XX
	ORDER NO. XXX	ORIGIN COUNTRY X	QUANTITY
	ENGINE TYPE/NO. XXX/YYY		X
01036574		0006756971	

Fig 3-1 Spare parts slip

Product number

The product numbers show which Wärtsilä products the part is compatible with.

Spare part number

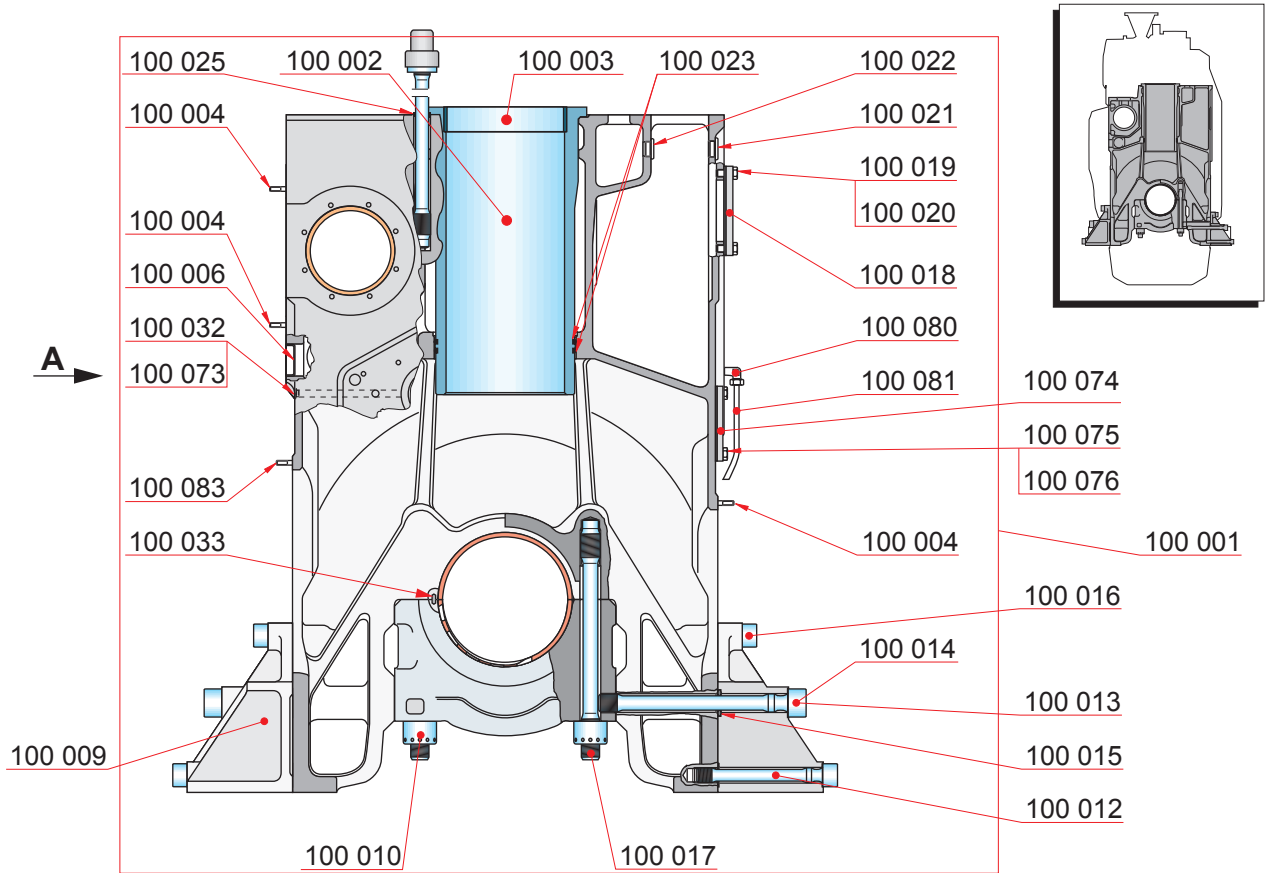
The spare part number identifies the type of the part and its location in the system.

Extended part number

The extended part numbers help you differentiate parts from each other if you have multiple Wärtsilä products that have similar parts with the same spare part code but are different in design or generation. This also includes situations where you have made modifications to Wärtsilä products that were originally identical.

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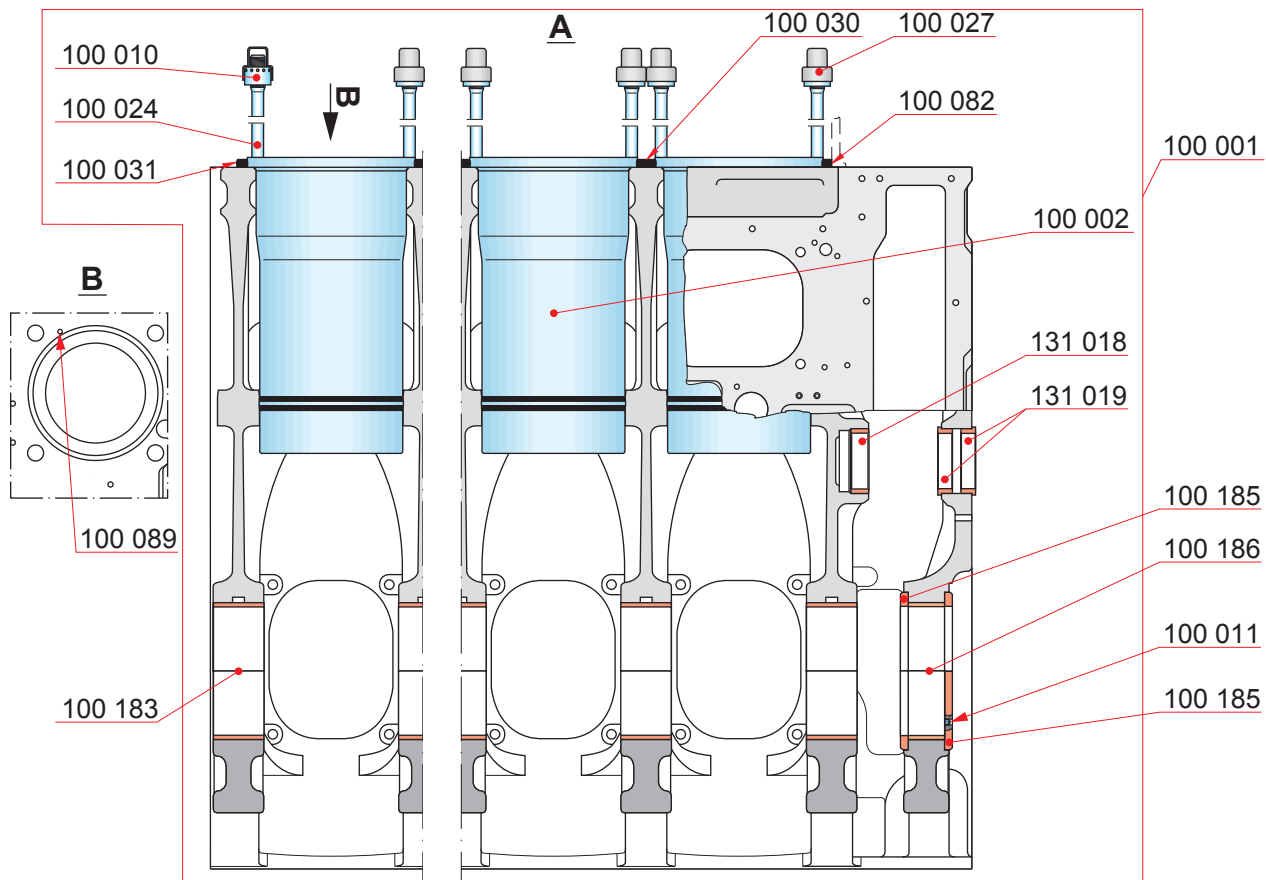
Engine block



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 001	Engine block	1	-	100 074	Flange	*	1.5
100 002	Cylinder liner	*	41.0	100 075	Gasket	*	-
100 003	Anti-polishing ring	*	0.8	100 076	Screw	*	-
100 004	Screw	*	-				
100 006	Sealing push-in cap	*	-				
100 010	Round nut	*	0.6	NOTE!	(1) L= 120 mm		
100 014	Side screw, short	*	1.1	NOTE!	* See page 3.		
100 017	Main bearing screw	*	2.4				
100 018	Cover for air receiver	*	1.2				
100 019	Gasket	*	-				
100 020	Screw	*	-				
100 021	Plug	*	0.3				
100 022	Plug	*	0.3				
100 023	Sealing ring	*	-				
100 025	O-ring	*	-				
100 032	Plug	*	-				
100 033	Pin	1	-				
100 073	Sealing ring	1	-				
100 080	Pipe union	1	-				
100 081	Pipe (1)	1	0.1				
100 083	Screw	1	-				
100 009	Engine foot	4	-				
100 012	Screw	8	-				
100 013	Side screw, long	8	-				
100 015	O-ring	8	-				
100 016	Screw	8	-				

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Engine block



Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 001	Engine block	1	-
100 002	Cylinder liner	*	41.0
100 010	Round nut	*	0.6
100 024	Cylinder head screw	*	3.2
100 027	Cap	*	-
100 030	Sealing piece	*	-
100 031	Sealing piece	1	-
100 082	Sealing piece	1	-
100 089	Plug	*	-
100 011	Pin	4	-
100 183	Main bearing pair (2)	*	-
100 185	Thrust washer set (1)	1	-
100 186	Main bearing 0 pair (2)	1	-
131 018	Bearing bush	1	-
131 019	Bearing bush	2	-

NOTE! (1) Includes 4 halves

NOTE! (2) Includes 2 halves

NOTE! * See page 3.

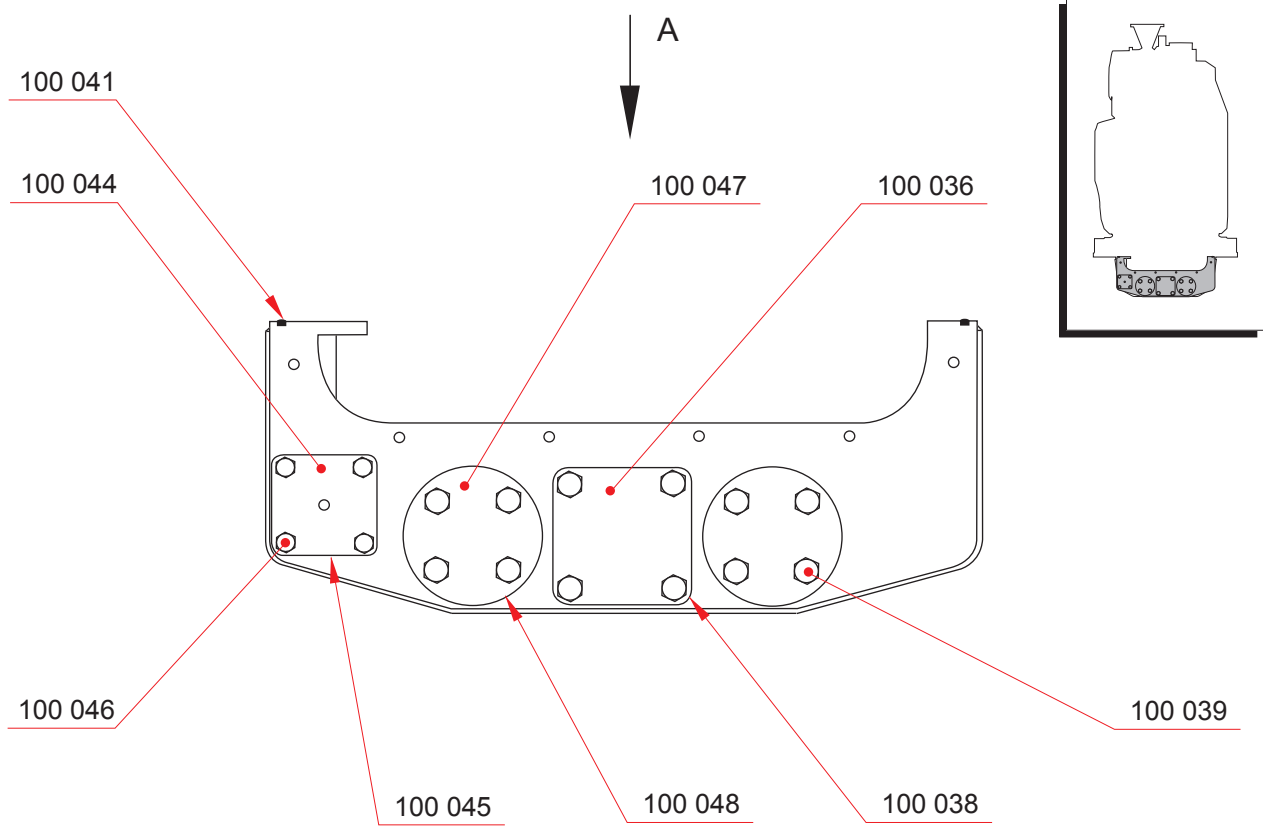
Engine block

Quantity according to number of cylinders

Part No. and Description	Quantity in pieces				
	4L	5L	6L	8L	9L
100 002 Cylinder liner	4	5	6	8	9
100 003 Anti-polishing ring	4	5	6	8	9
100 004 Screw	48	59	71	95	107
100 006 Sealing push-in cap	4	5	6	8	9
100 010 Round nut	28	34	40	52	58
100 014 Side screw, short	3	5	7	11	13
100 017 Main bearing screw	12	14	16	20	22
100 018 Cover for air receiver	1	1	1	2	2
100 019 Gasket	1	1	1	2	2
100 020 Screw	4	4	4	8	8
100 021 Plug	2	2	2	3	3
100 022 Plug	2	2	2	3	3
100 023 Sealing ring	8	10	12	16	18
100 024 Cylinder head screw	16	20	24	32	36
100 025 O-ring	16	20	24	32	36
100 027 Cap	16	20	24	32	36
100 030 Sealing piece	3	4	5	7	8
100 032 Plug	1	6	1	1	1
100 074 Flange	-	-	-	1	1
100 075 Gasket	-	-	-	1	1
100 076 Screw	-	-	-	4	4
100 089 Plug	4	5	6	8	9
100 183 Main bearing pair	5	6	7	9	10

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Oil sump, wet



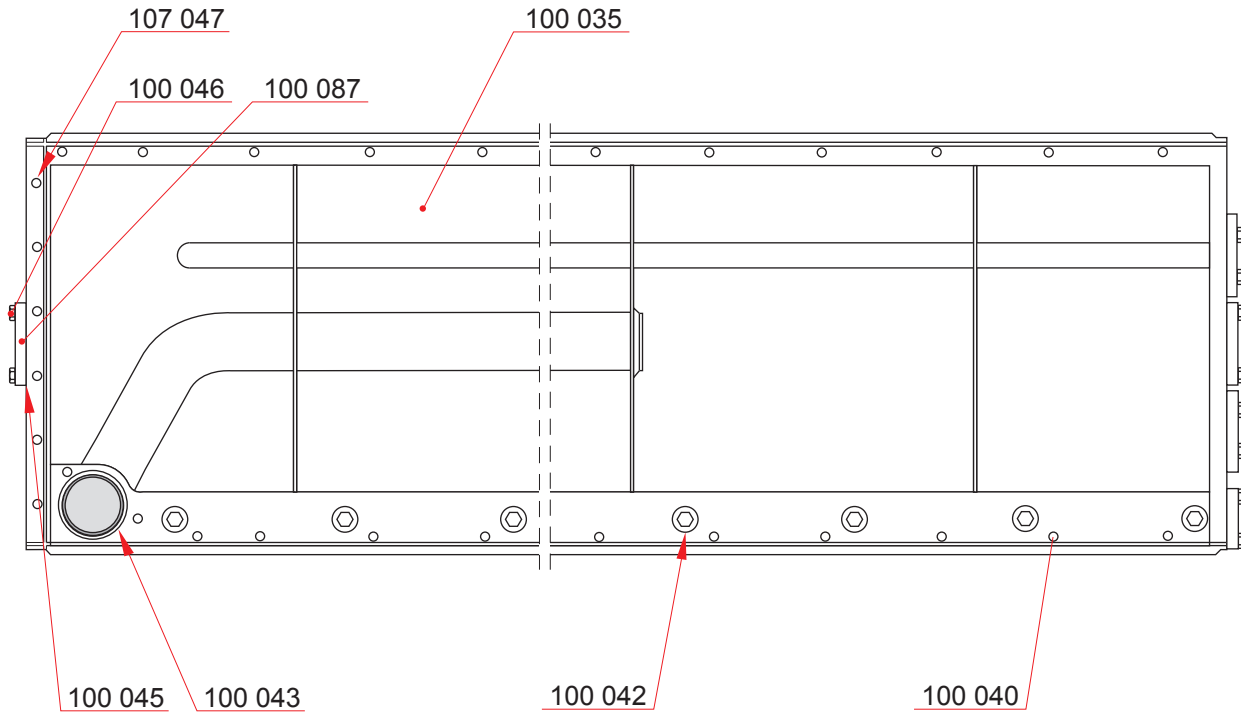
Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 036	Flange	1	2.9
100 038	O-ring	1	-
100 039	Screw	12	-
100 041	Rubber band	5	-
100 044	Flange	1	1.0
100 045	O-ring	2	-
100 046	Screw	8	-
100 047	Flange	2	2.2
100 048	O-ring	2	-

NOTE! * see page 3.

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 Updated: 14.11.1997

Oil sump, wet

VIEW A



Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 035	Oil sump	1	189
100 040	Screw	23	-
100 042	O-ring	7	-
100 043	O-ring	1	-
100 045	O-ring	2	-
100 046	Screw	8	-
107 047	Screw	6	-
100 087	Flange	1	-

NOTE! * see page 3.

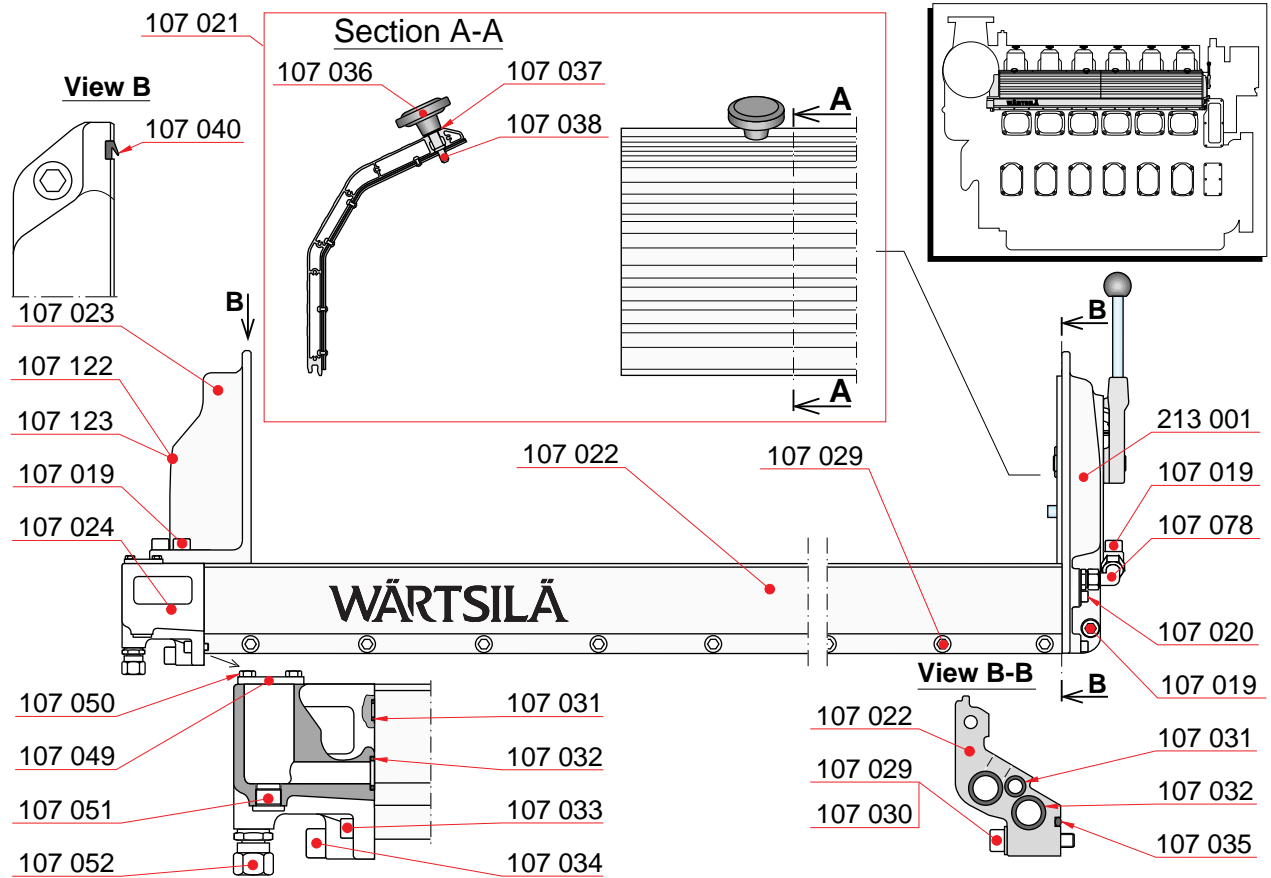
Oil sump, wet

Quantity according to number of cylinders

Part No	Pieces		
	6L20	8L20	9L20
100 040	23	29	32
100 041	5 meters	6,4 meters	7 meters
100 042	7	9	10

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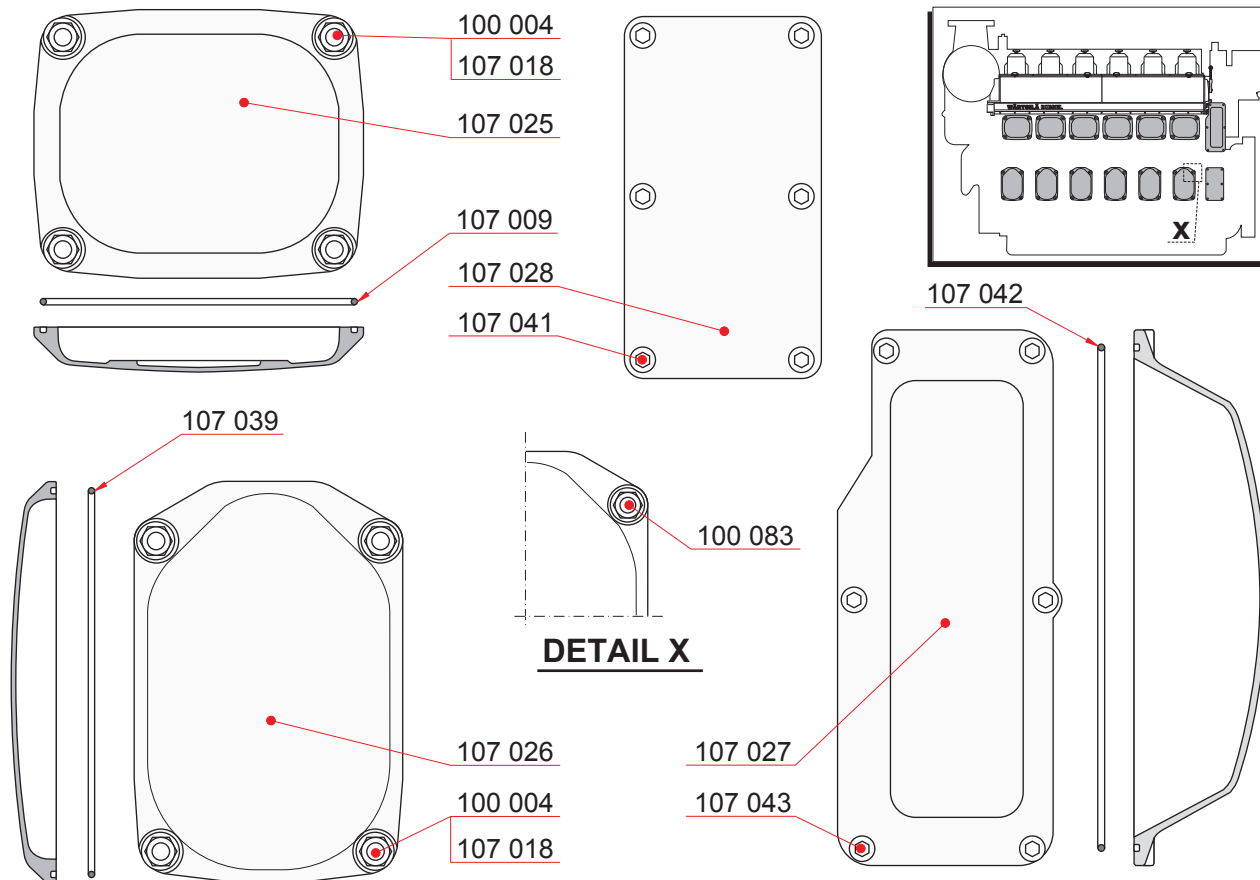
Casings and covers



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 019	Screw	9	-	213 001	Stop lever and end cover (1)	1	-
107 051	Plug	1	-				
107 020	Screw	2	-				
107 021	Side cover, upper part	*	-	NOTE!	* see page 3.(1) see section 213.		
107 036	Hand wheel	*	-				
107 037	Washer	*	-				
107 038	Screw	*	-				
107 022	Side cover, lower part	1	-				
107 023	End cover, upper half	1	10.1				
107 024	End cover, lower half	1	8.7				
107 029	Screw	*	-				
107 030	Washer	*	-				
107 031	O-ring	2	-				
107 032	O-ring	4	-				
107 033	Screw	2	-				
107 034	Screw	4	-				
107 035	Hose gasket	*	-				
107 040	Gasket	1	-				
107 049	Cover	1	-				
107 050	Screw	3	-				
107 052	Pipe union	1	-				
107 078	Pipe union	1	-				
107 122	Pipe clamp	2	-				
107 123	Screw	2	-				

Edition: G
Page: 2(3)
Updated: 18.07.2000

Casings and covers



Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 004	Screw	*	-
100 083	Screw (1)	1	-
107 009	Hose gasket	*	-
107 018	Nut	*	-
107 025	Cover	*	-
107 026	Crankcase cover	*	-
107 027	Cover for camshaft gear	1	-
107 028	Cover	1	-
107 039	Hose gasket for lower side cover	*	-
107 041	Screw	6	-
107 042	Hose gasket for camshaft gear cover	1	-
107 043	Screw	6	-

NOTE! (1) Depending on installation.

NOTE! * See page 3.

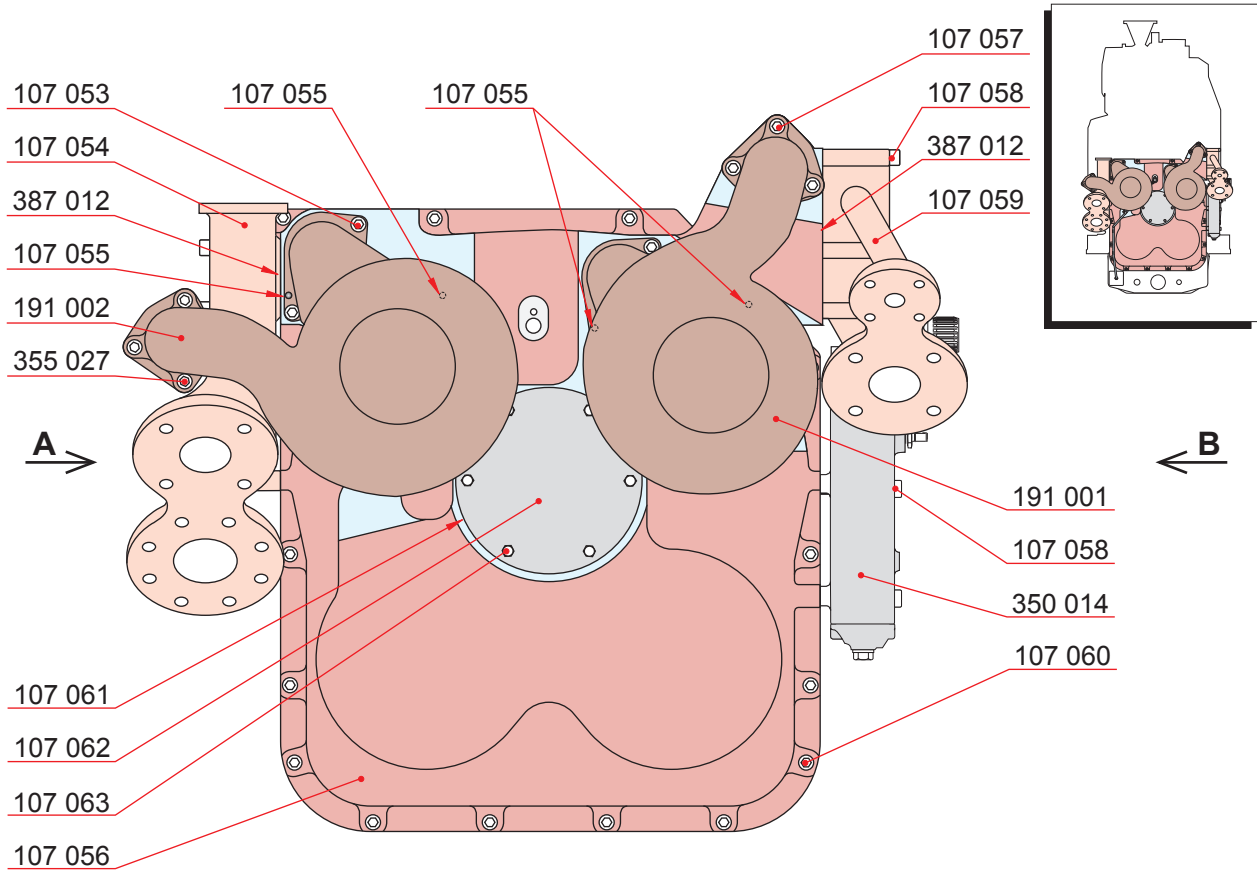
Casings and covers

Quantity according to number of cylinders

Part No	Pieces				
	4L20	5L20	6L20	8L20	9L20
100 004	47	59	71	95	107
107 009	5	7	9	11	13
107 018	48	60	72	96	108
107 021	1	1	2	2	3
107 025	5	7	9	11	13
107 026	3	4	5	7	8
107 029	5	6	13	17	19
107 030	5	6	13	17	19
107 035	1,27m	1,56m	1,87m	2,47m	2,77m
107 036	2	2	4	4	6
107 037	2	2	4	4	6
107 038	2	2	4	4	6
107 039	3	4	5	7	8

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Pump cover assembly

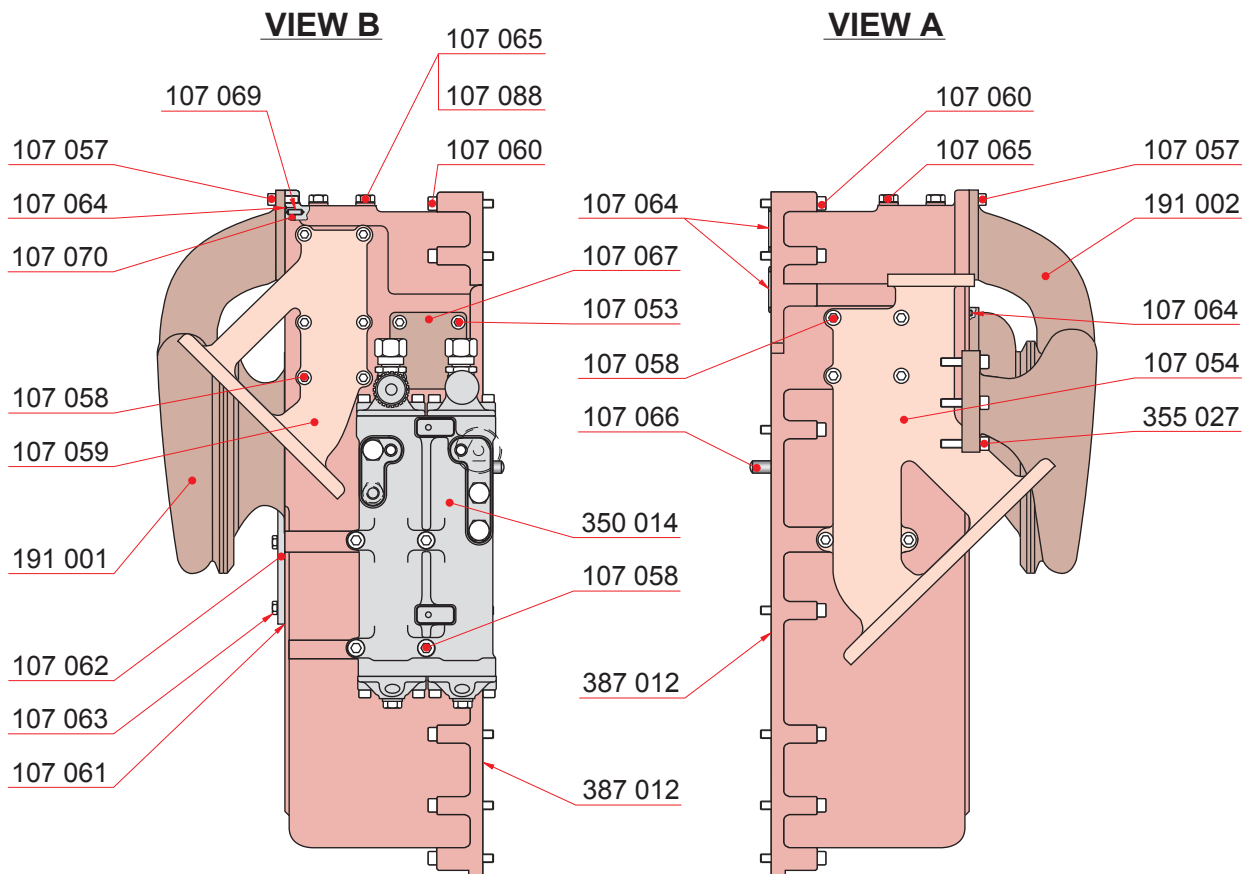


Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 053	Screw	10	-
107 055	Pin	4	-
107 054	Water connection	1	-
107 056	Pump cover	1	165
107 057	Screw	3	-
107 058	Screw	16	0.1
107 059	Water connection	1	19.6
107 060	Screw	18	-
107 061	Gasket	1	-
107 062	Cover	1	3.0
107 063	Screw	6	-
191 001	HT water pump	1	-
191 002	LT water pump	1	-
350 014	Pulse damper	1	-
355 027	Screw	3	-
387 012	Glue compound	1	-

Edition: C

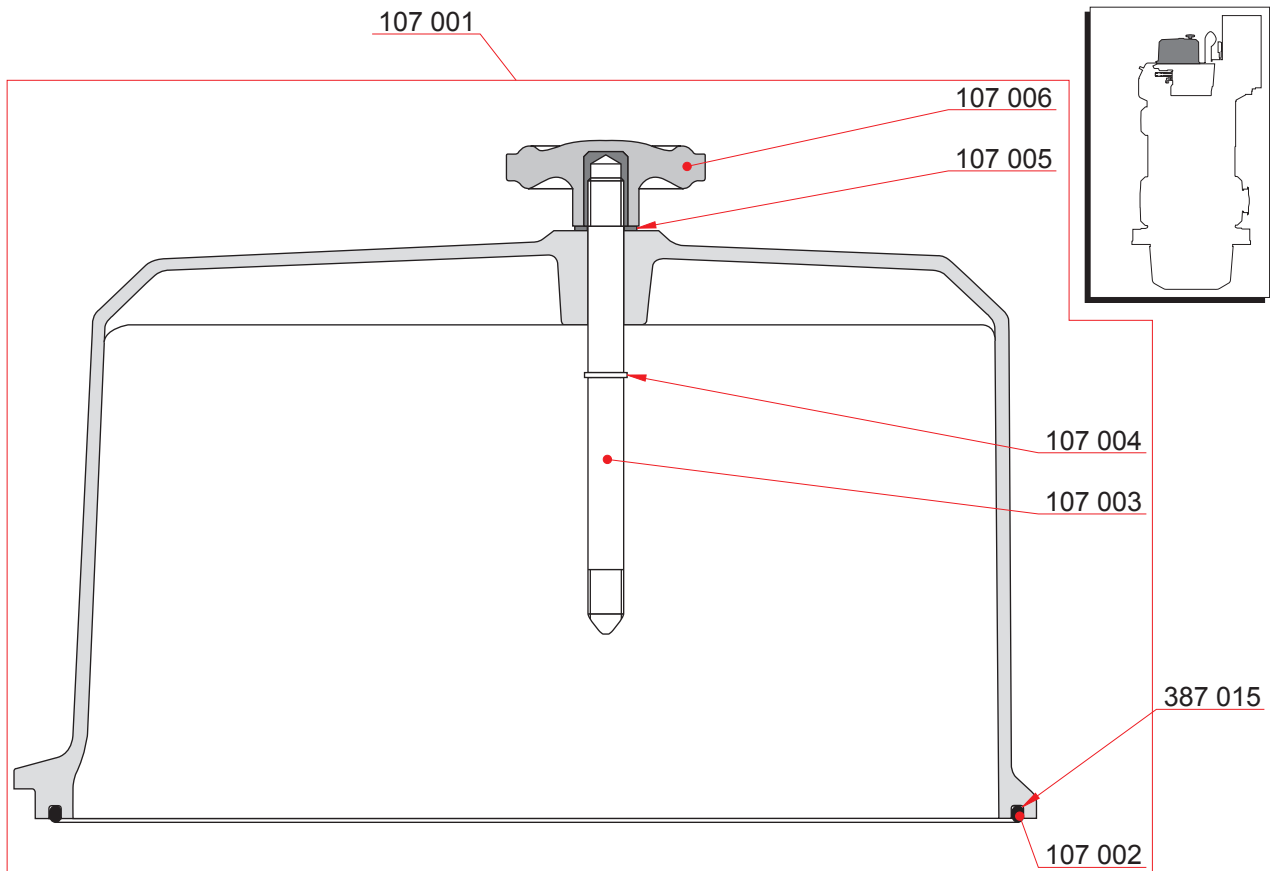
Page: 2(2)

Updated: 20.01.1997

Pump cover assembly

Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 053	Screw	4	-
107 065	Plug	2	-
107 066	Pin	2	-
107 069	Pin	1	-
107 054	Water connection	1	-
107 057	Screw	3	-
107 058	Screw	16	0.1
107 059	Water connection	1	19.6
107 060	Screw	18	-
107 061	Gasket	1	-
107 062	Cover	1	3.0
107 063	Screw	6	-
107 064	O-ring	5	-
107 067	Flange	1	-
107 070	Non-return valve	1	0.5
107 088	Sealing ring	2	-
191 001	HT water pump	1	-
191 002	LT water pump	1	-
350 014	Pulse damper	1	-
355 027	Screw	3	-
387 012	Glue compound	1	-

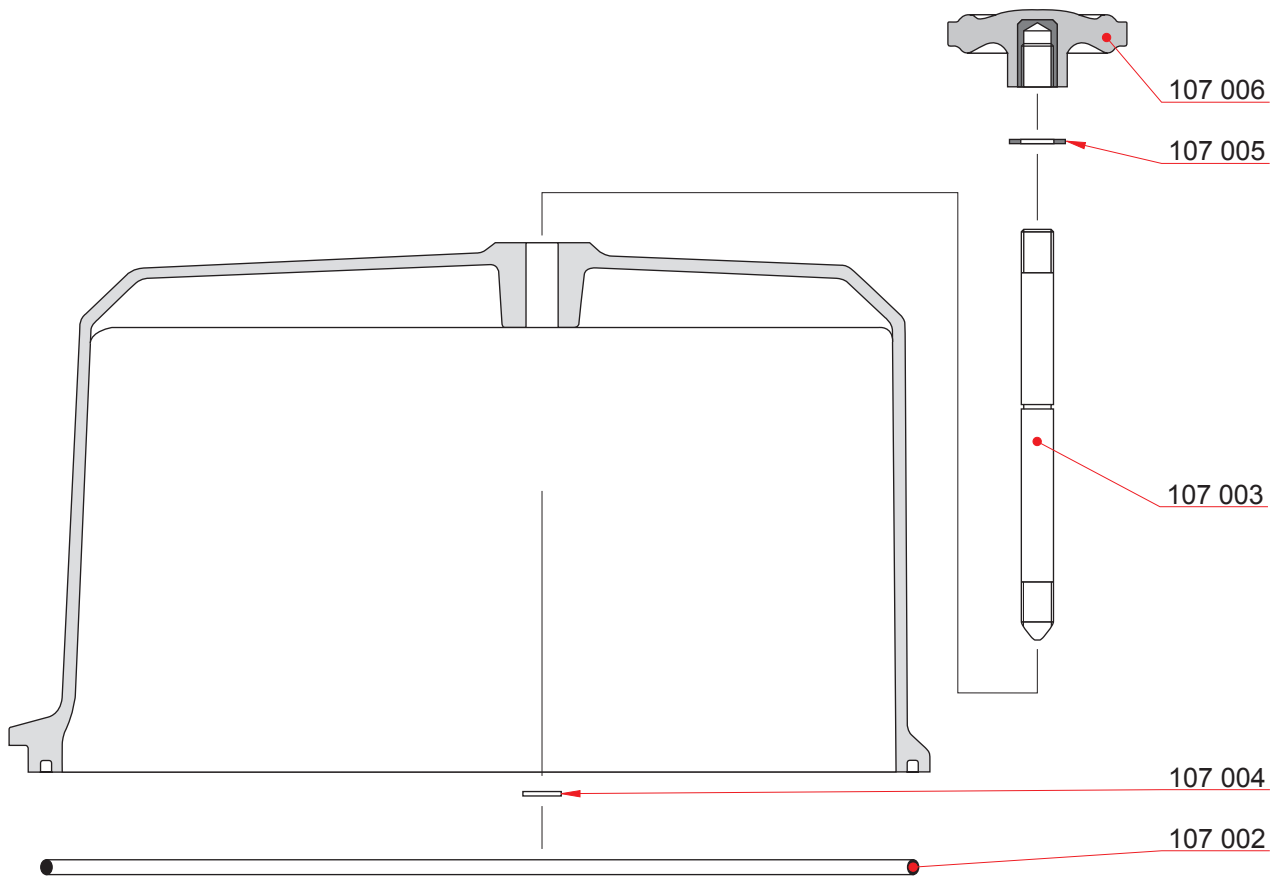
Cover for cylinder head



Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 001	Cover for cyl. head	1	3.6
107 002	Hose gasket for cylinder head cover	1	-
107 003	Screw	1	0.1
107 004	Retainer ring	1	-
107 005	Sealing washer	1	-
107 006	Hand wheel	1	-
387 015	Glue compound	1	-

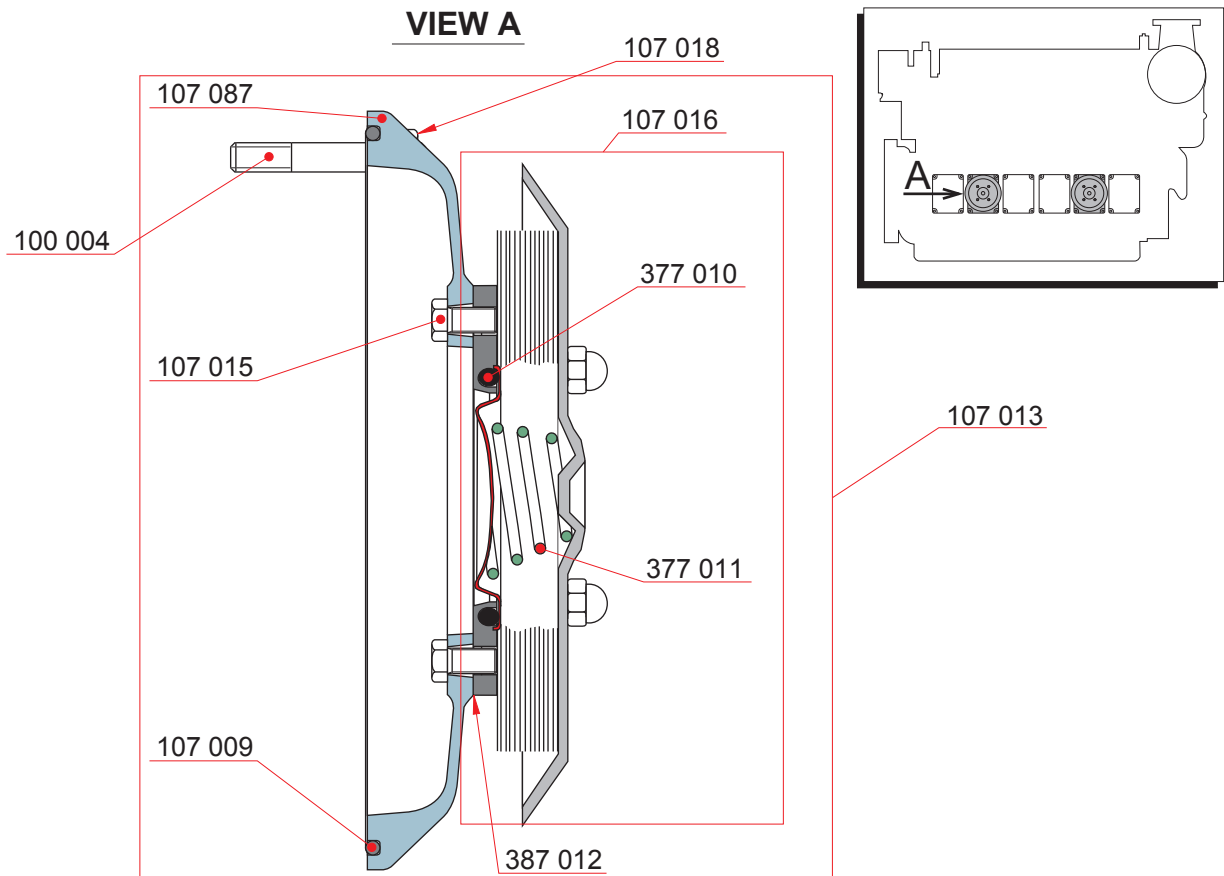
Edition: B
 Page: 2(2)
 Updated: 30.04.1996

Cover for cylinder head



Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 002	Hose gasket for cylinder head cover	1	-
107 003	Screw	1	0.1
107 004	Retainer ring	1	-
107 005	Sealing washer	1	-
107 006	Hand wheel	1	-

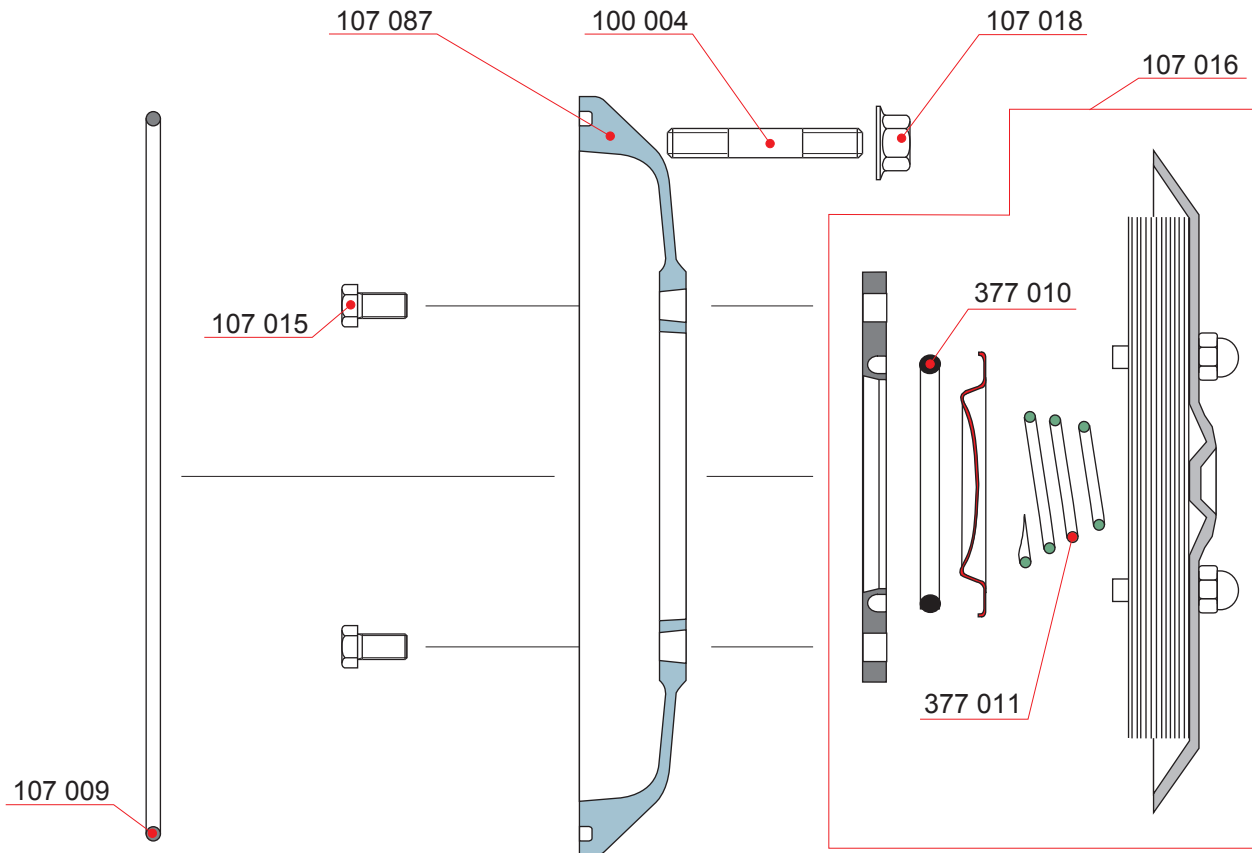
Crankcase cover with relief valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 013	Crankcase cover with relief valve	3	4.5
107 009	Hose gasket	1	-
107 015	Screw	4	-
107 016	Relief valve	1	2.6
377 010	O-ring	1	-
377 011	Spring	1	-
107 087	Screw	1	1.6
387 012	Glue compound	1	-
100 004	Screw	4	-
107 018	Nut	4	-

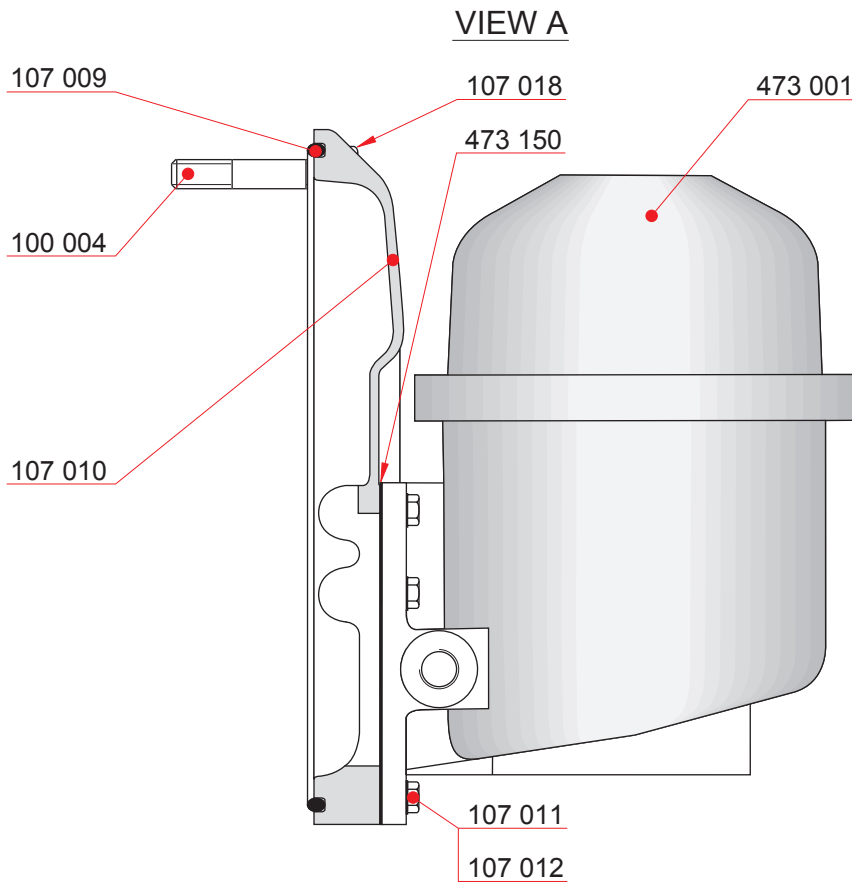
Edition: E
 Page: 2(2)
 Updated: 10.06.1997

Crankcase cover with relief valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 004	Screw	4	-
107 009	Hose gasket	1	-
107 015	Screw	4	-
107 016	Relief valve	1	2.6
107 018	Nut	4	-
107 087	Screw	1	1.6
377 010	O-ring	1	-
377 011	Spring	1	-

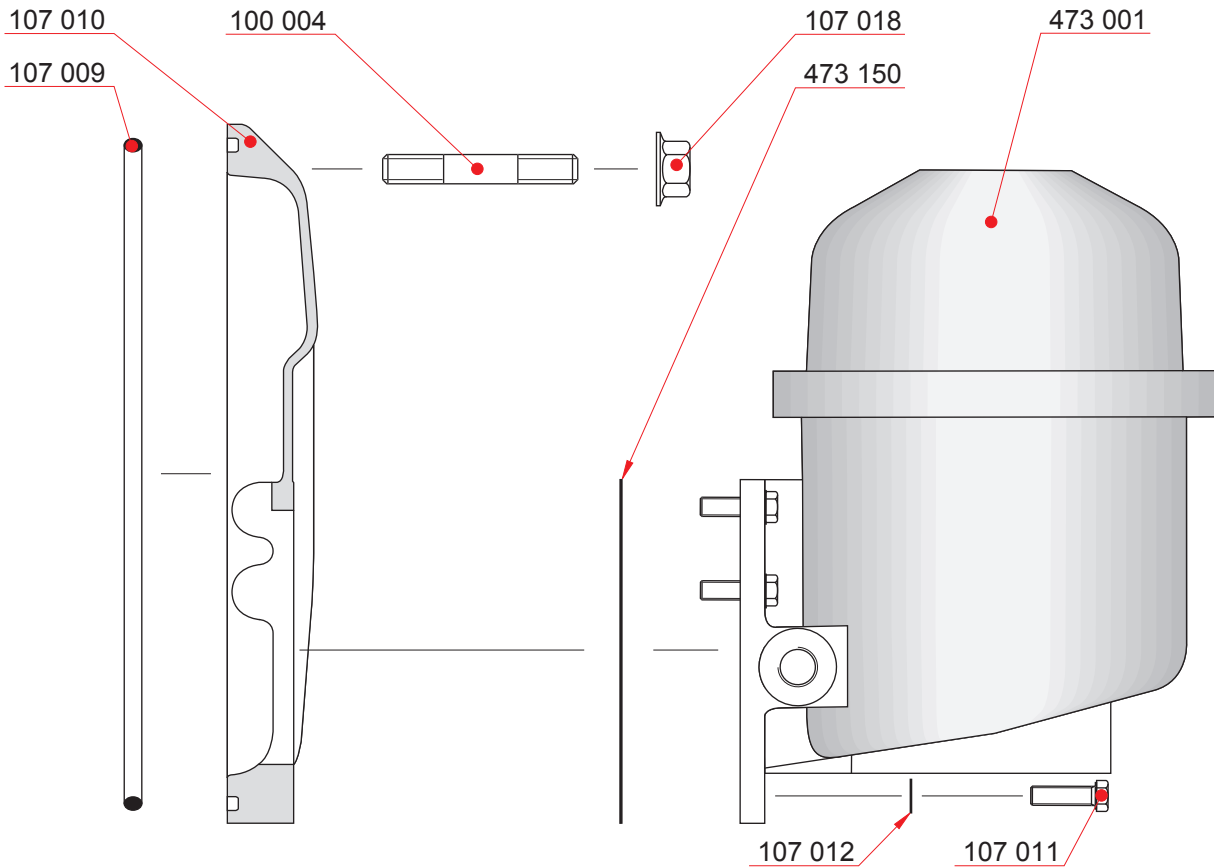
Crankcase cover with centrifugal filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 004	Screw	47	-
107 018	Nut	48	-
107 009	Hose gasket	1	-
107 010	Crankcase cover	1	6.0
107 011	Screw	6	-
107 012	Washer	6	-
473 001	Centrifugal filter (1)	1	-
473 150	Gasket	1	-

Edition: B
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 Updated: 22.11.1994

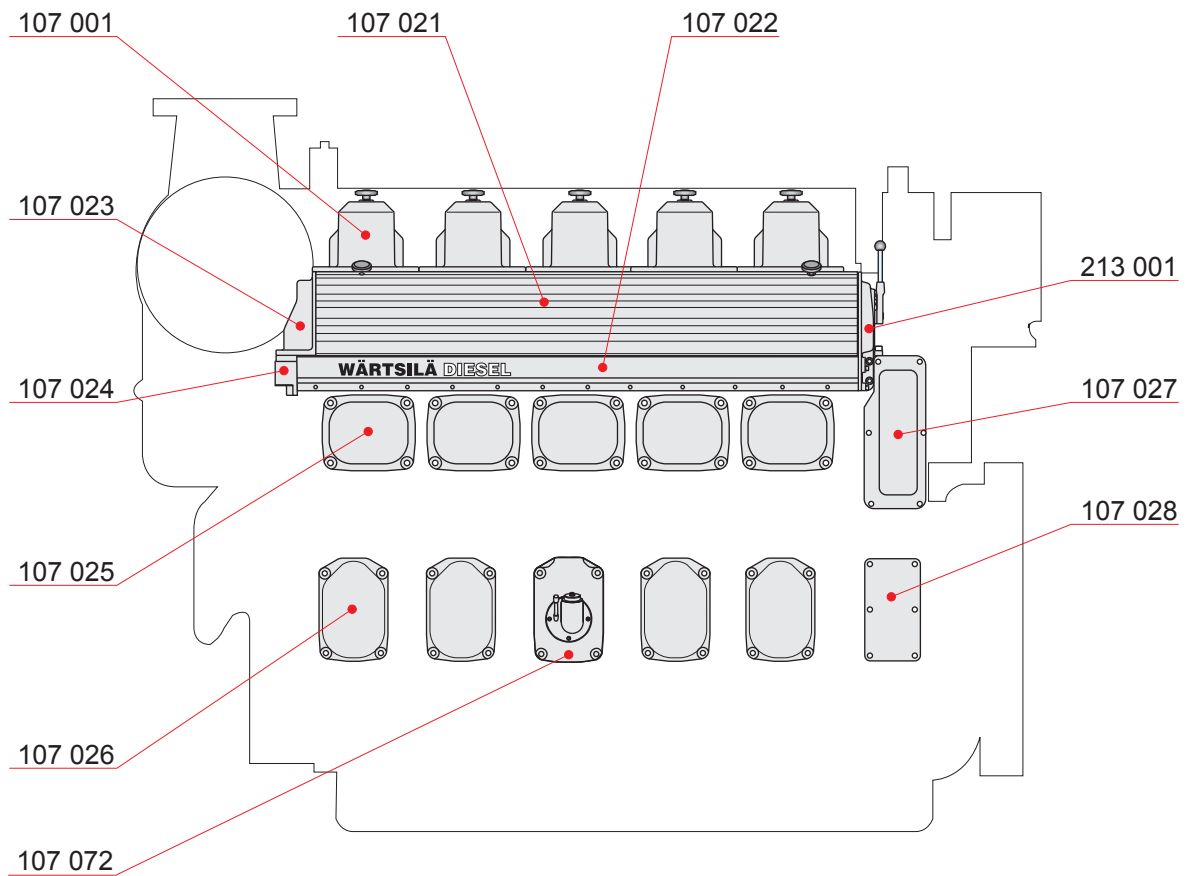
Crankcase cover with centrifugal filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]
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NOTE! (1) see section 473.

Casings, covers, end plates 5L20



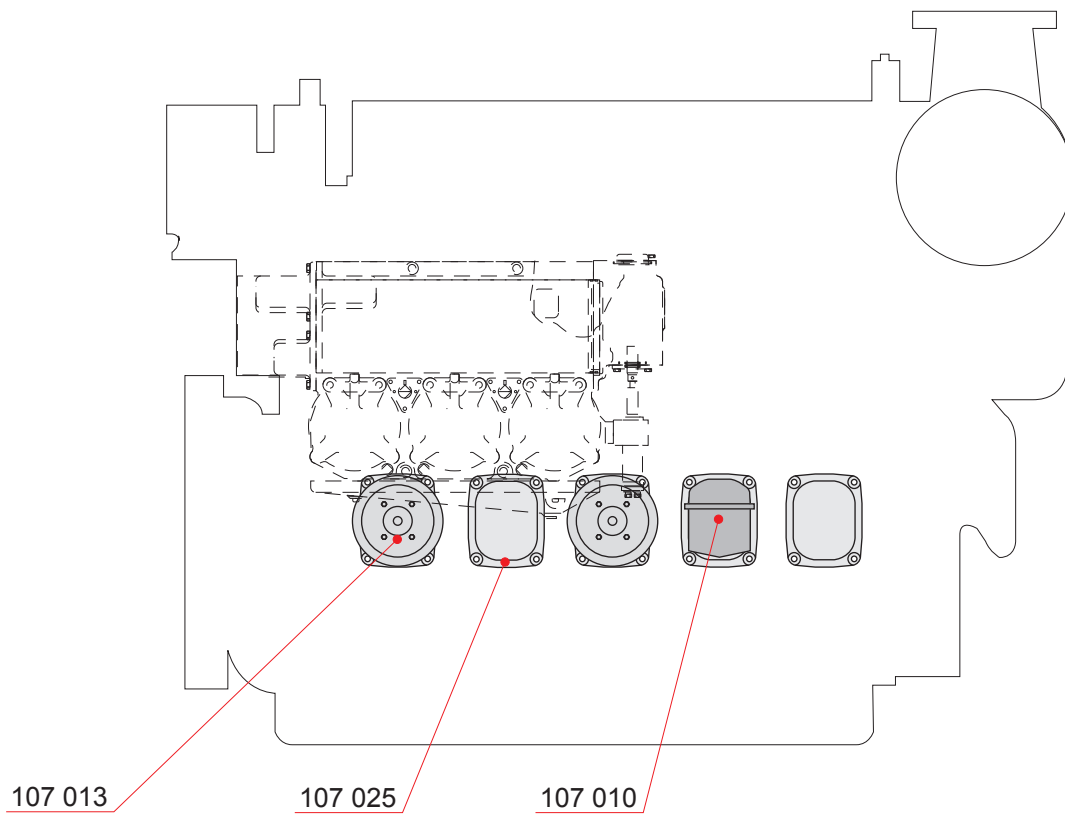
Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 001	Cover for cyl. head	5	-
107 028	Cover	1	-
107 021	Side cover, upper part	1	-
107 022	Side cover, lower part	1	-
107 023	End cover, upper half	1	-
107 024	End cover, lower half	1	-
107 025	Cover	7	-
107 026	Crankcase cover	*	-
107 027	Cover for camshaft gear	1	-
107 072	Crankcase cover with oil filling opening (1)		-
213 001	Stop lever and end cover	1	-

NOTE! * See page 3.

Edition: C

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Updated: 22.11.2001

Casings, covers, end plates 5L20

Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 010	Crankcase cover (2)	1	-
107 013	Crankcase cover with relief valve (3)	2	-
107 025	Cover	7	-

Casings, covers, end plates 5L20

Quantity according to the installation

Part No	Pieces	
	Crankcase cover with oil filling opening and oil dipstick installed	
	Yes	No
107 026	4	5
107 072	-	1

Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 026	Crankcase cover		-
107 072	Crankcase cover with oil filling opening		-

NOTE! (1) see section 107-14

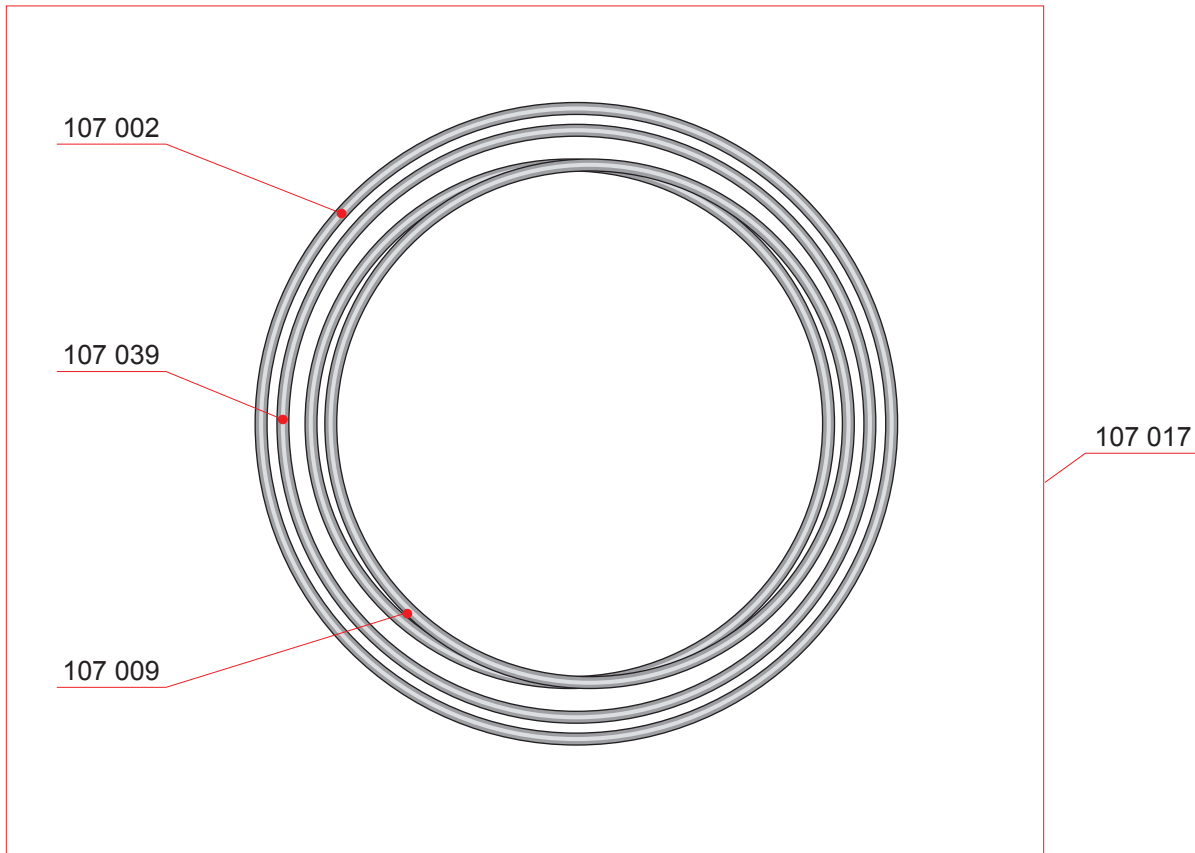
NOTE! (2) see section 107-13

NOTE! (3) see section 107-12

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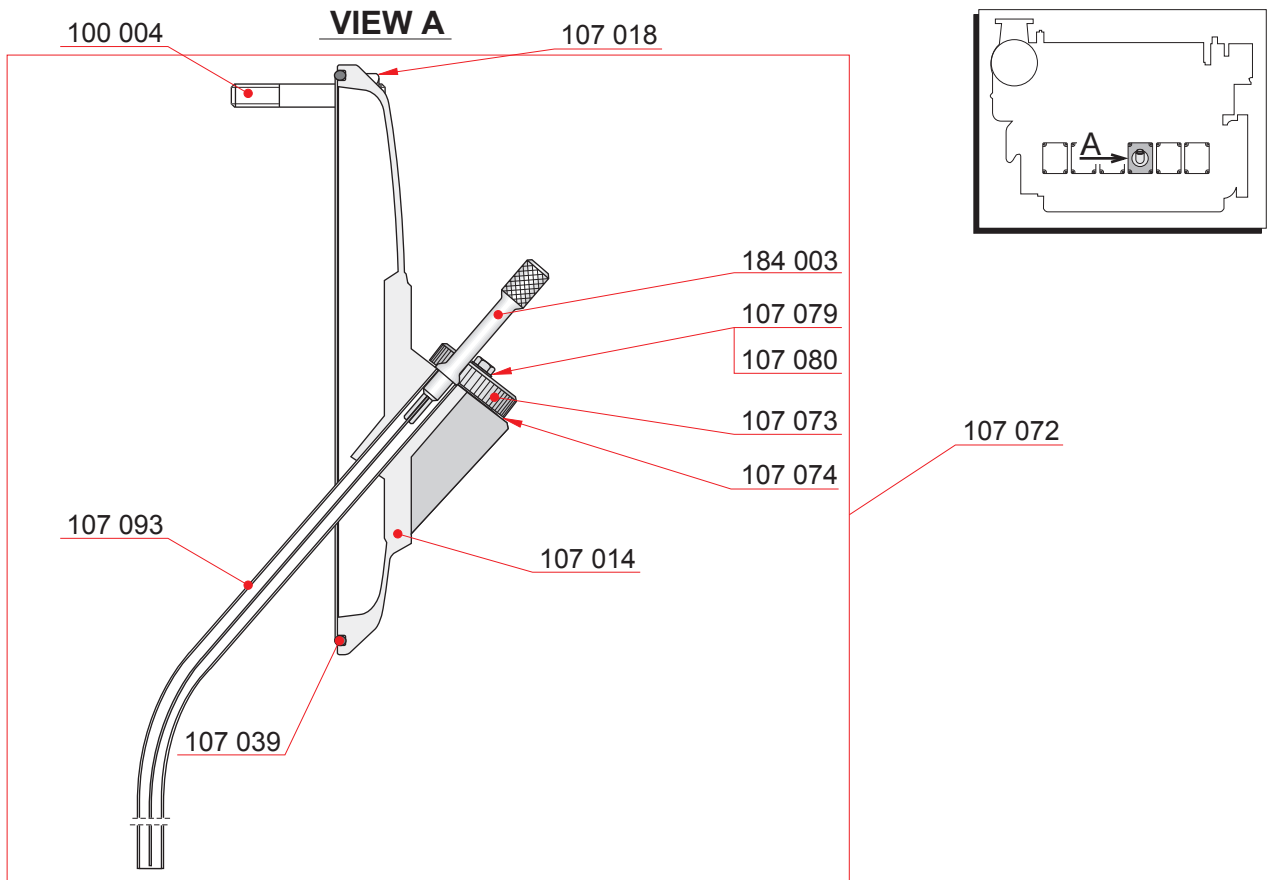
Page: 4(4)

Updated: 22.11.2001

Casings, covers, end plates 5L20

Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 017	Sealing kit for covers	-	-
107 002	Hose gasket for cylinder head cover	1	-
107 009	Hose gasket	2	-
107 039	Hose gasket for lower side cover	1	-

Crankcase cover with oil filling opening and dipstick

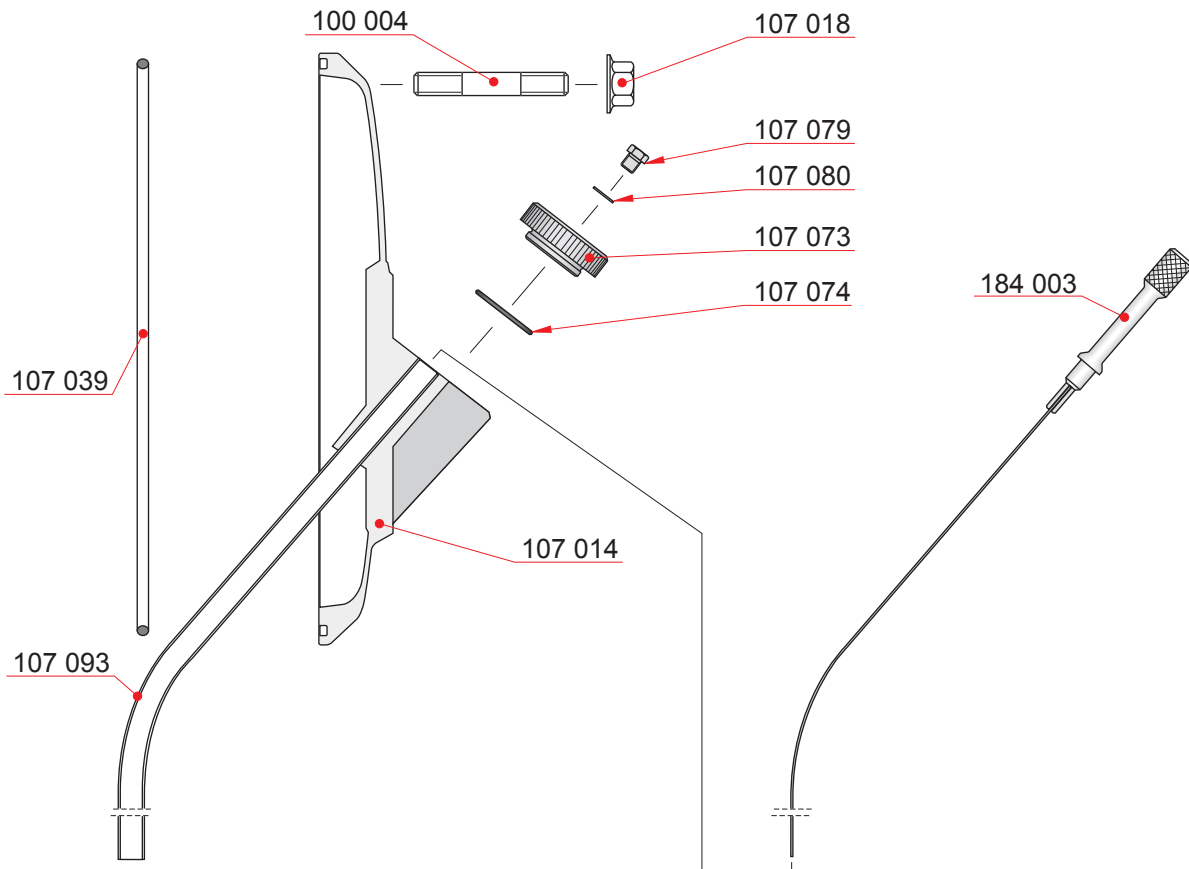


Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 072	Crankcase cover with oil filling opening	1	3.2
107 014	Crankcase cover	1	8.0
107 039	Hose gasket for lower side cover	1	-
107 073	Plug	1	0.4
107 074	O-ring	1	-
107 079	Plug	1	-
107 080	Sealing ring	1	-
107 093	Protecting pipe	1	0.8
184 003	Oil dipstick	1	0.1
100 004	Screw	4	-
107 018	Nut	4	-

Edition: A

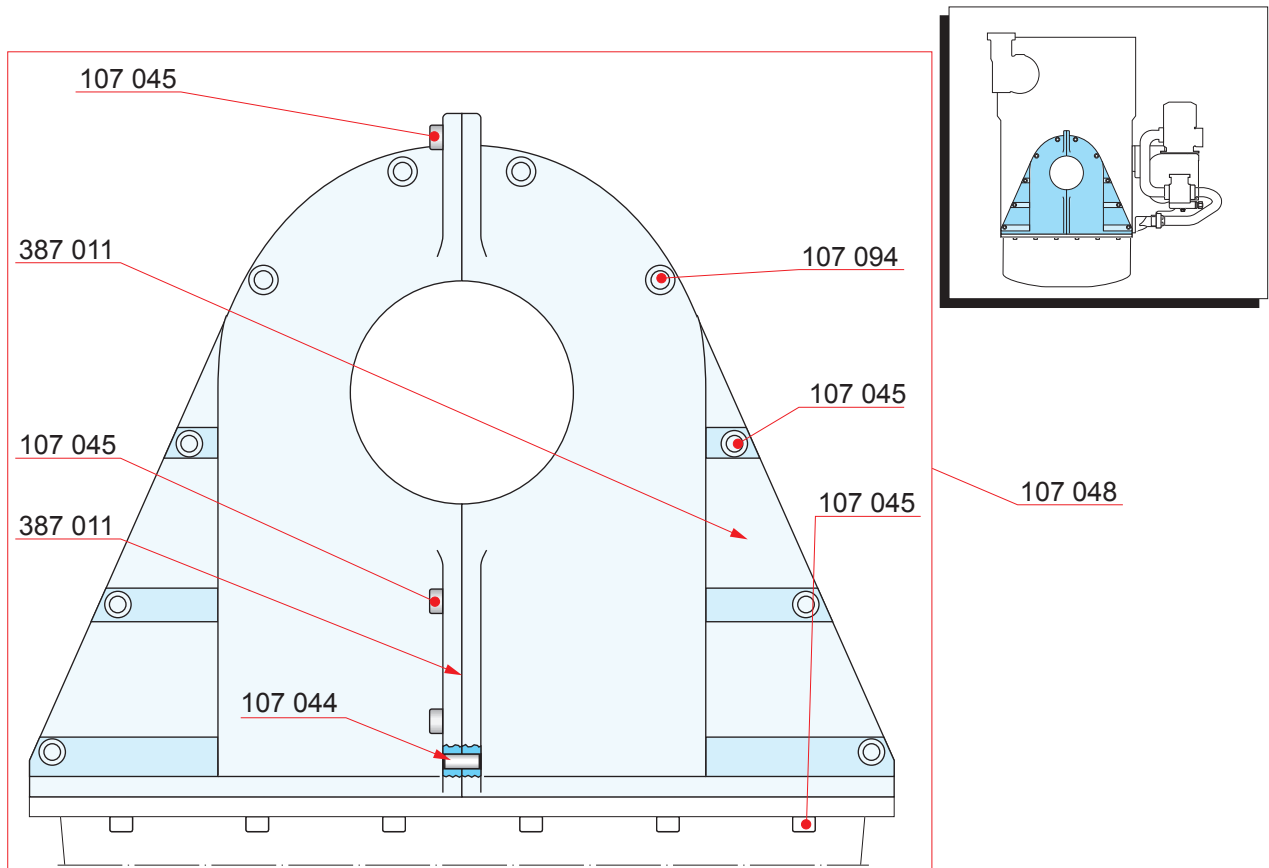
Page: 2(2)

Updated: 01.04.1997

Crankcase cover with oil filling opening and dipstick

Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 004	Screw	4	-
107 014	Crankcase cover	1	8.0
107 018	Nut	4	-
107 039	Hose gasket for lower side cover	1	-
107 073	Plug	1	0.4
107 074	O-ring	1	-
107 079	Plug	1	-
107 080	Sealing ring	1	-
107 093	Protecting pipe	1	0.8
184 003	Oil dipstick	1	0.1

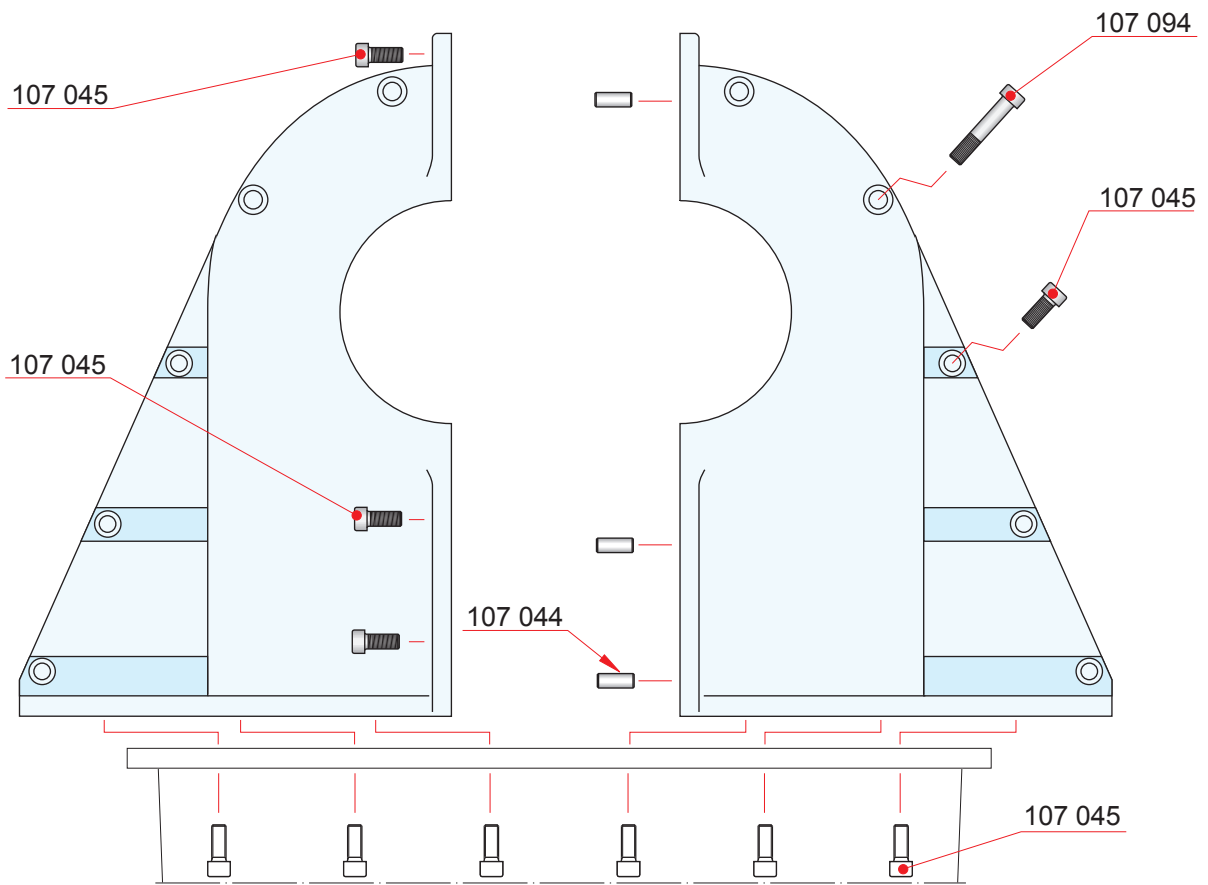
End cover



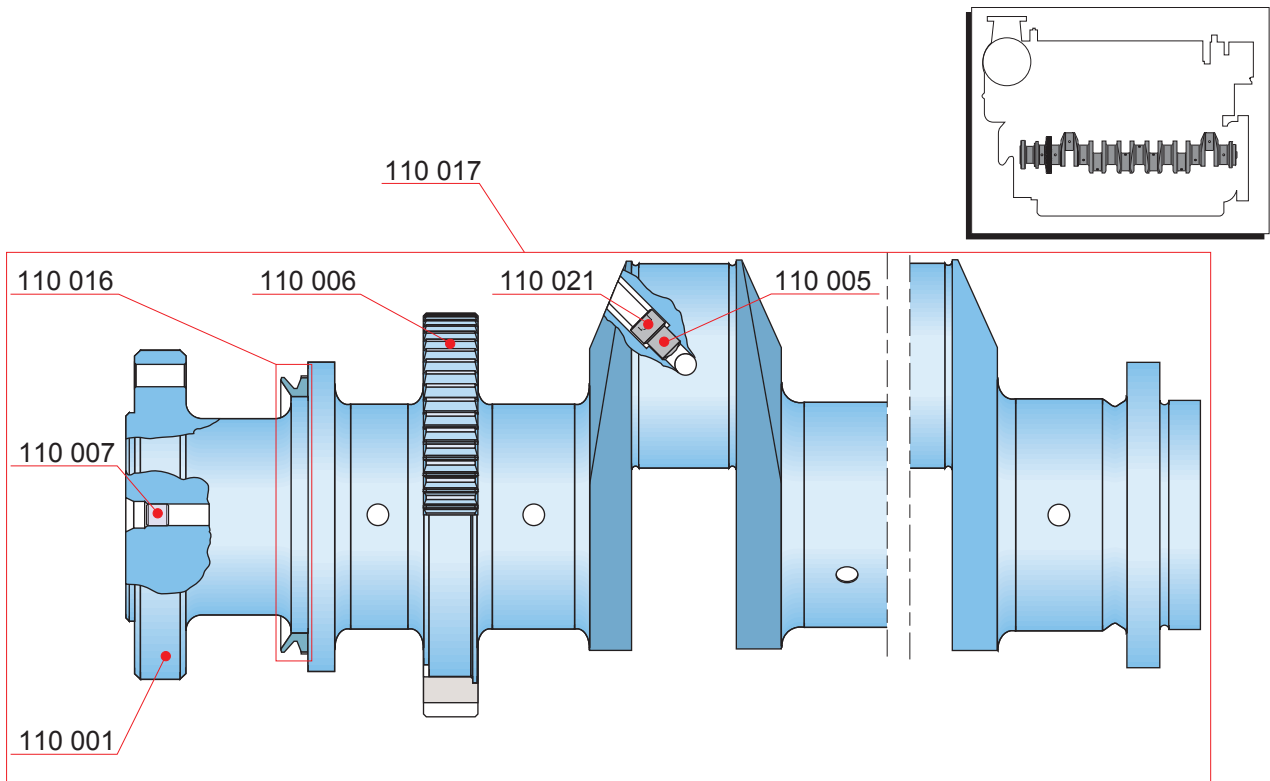
Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 048	End cover, compl.	1	-
107 044	Pin	3	-
107 045	Screw	16	-
107 094	Screw	4	-
387 011	Glue compound	1	-

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Updated: 09.11.2007

End cover



Crankshaft

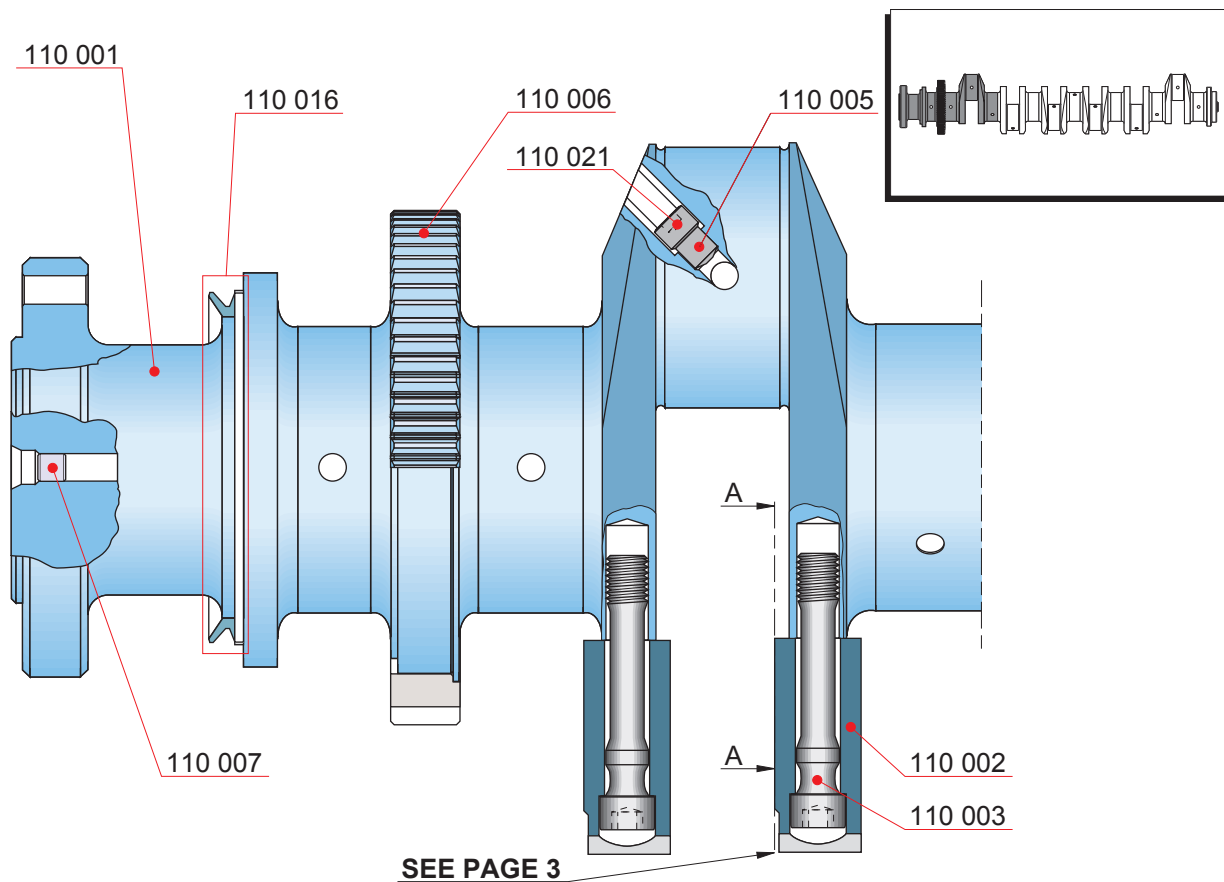


Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 017	Crankshaft, assembly	1	-
110 001	Crankshaft	1	-
110 005	Plug	*	-
110 006	Gear wheel	1	11.1
110 007	Plug	1	-
110 016	V-ring spare part kit	1	0.4
110 021	Screw	*	-

NOTE! * See page 7

Edition: D
 Page: 2(8)
 Updated: 01.06.2000

Crankshaft

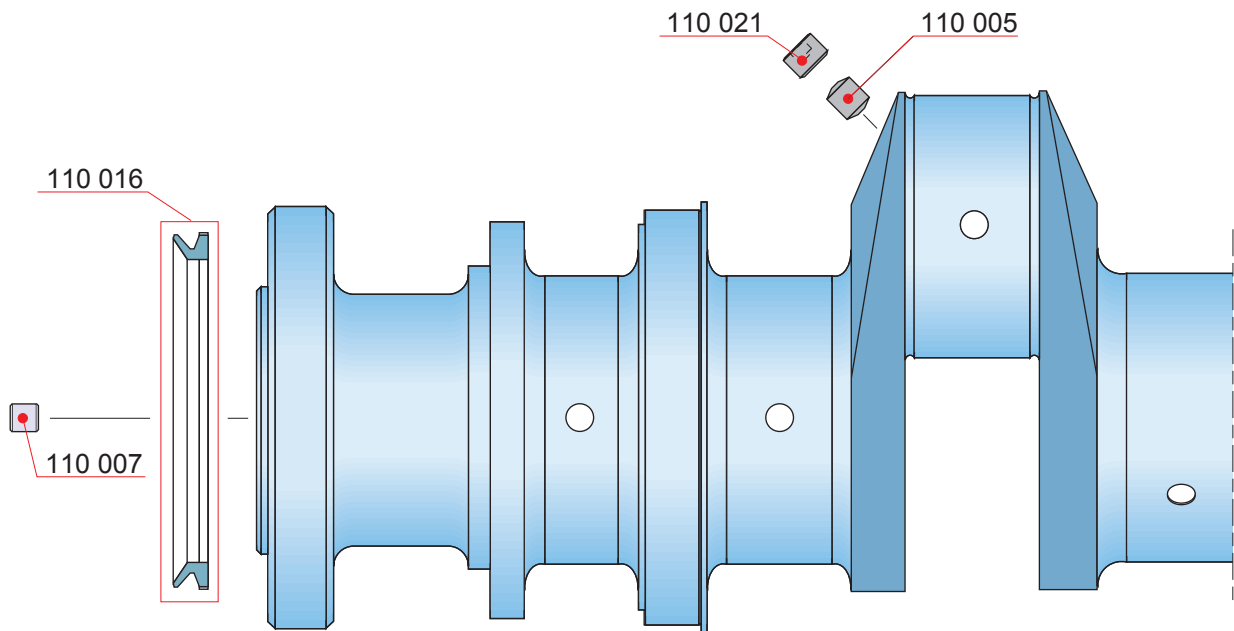


Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 001	Crankshaft	1	-
110 002	Counterweight (1)	*	14.9
110 003	Screw (1)	*	0.6
110 005	Plug	*	-
110 006	Gear wheel	1	11.1
110 007	Plug	*	-
110 016	V-ring spare part kit	1	0.4
110 021	Screw	*	-

NOTE! (1) not used in 4L20

NOTE! * See page 7

Crankshaft



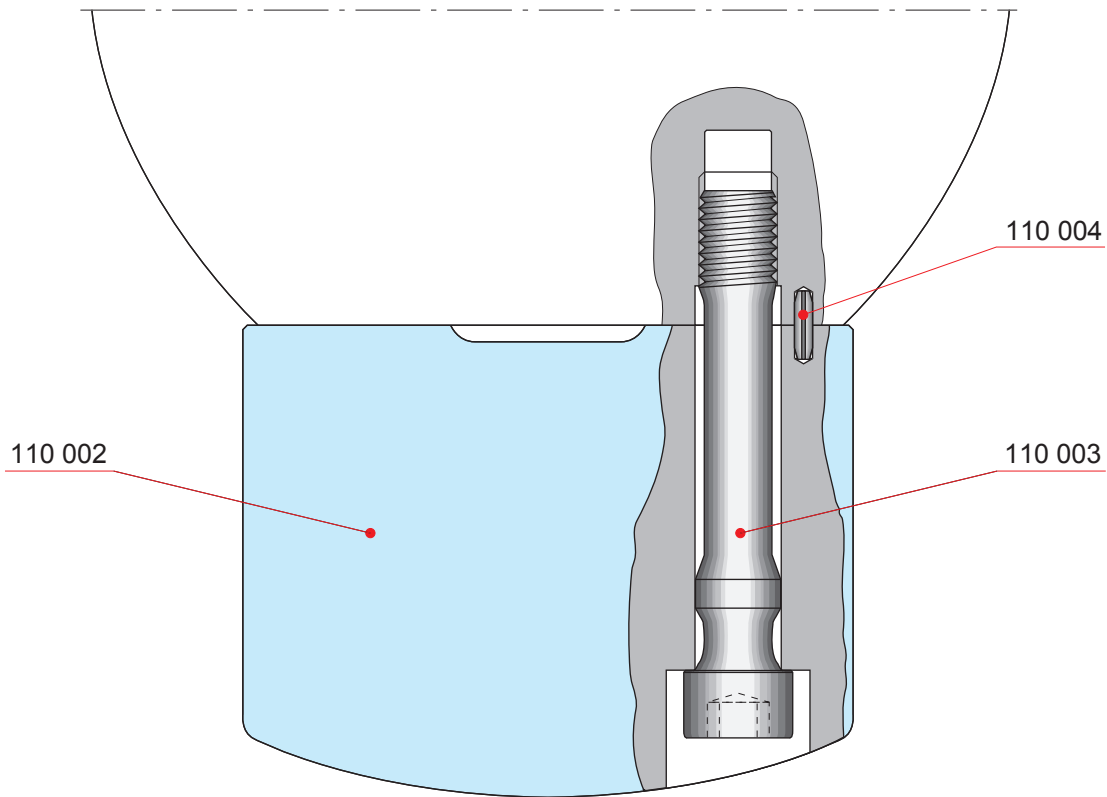
Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 005	Plug	*	-
110 007	Plug	*	-
110 016	V-ring spare part kit	1	0.4
110 021	Screw	*	-

NOTE! * See page 7

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 Updated: 01.06.2000

Crankshaft

SECTION A-A

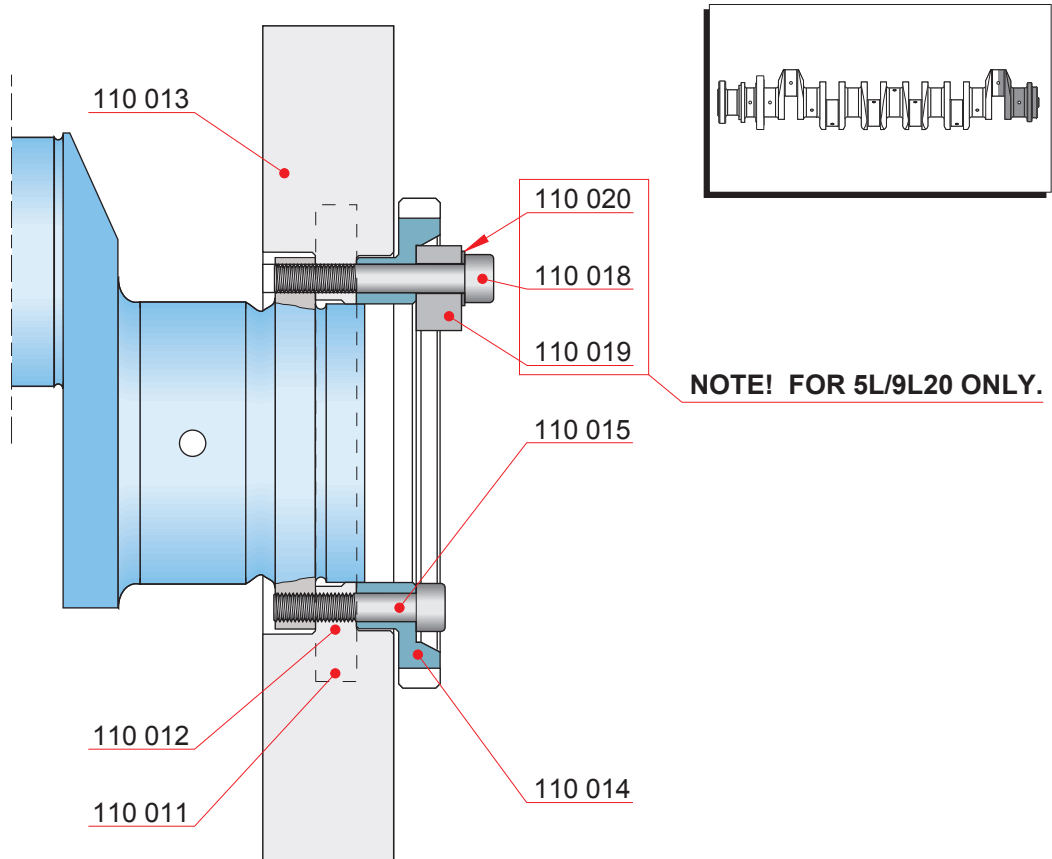


Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 002	Counterweight (1)	*	14.9
110 003	Screw (1)	*	0.6
110 004	Pin (1)	*	-

NOTE! (1) not used in 4L20

NOTE! * See page 7

Crankshaft



NOTE! FOR 5L/9L20 ONLY.

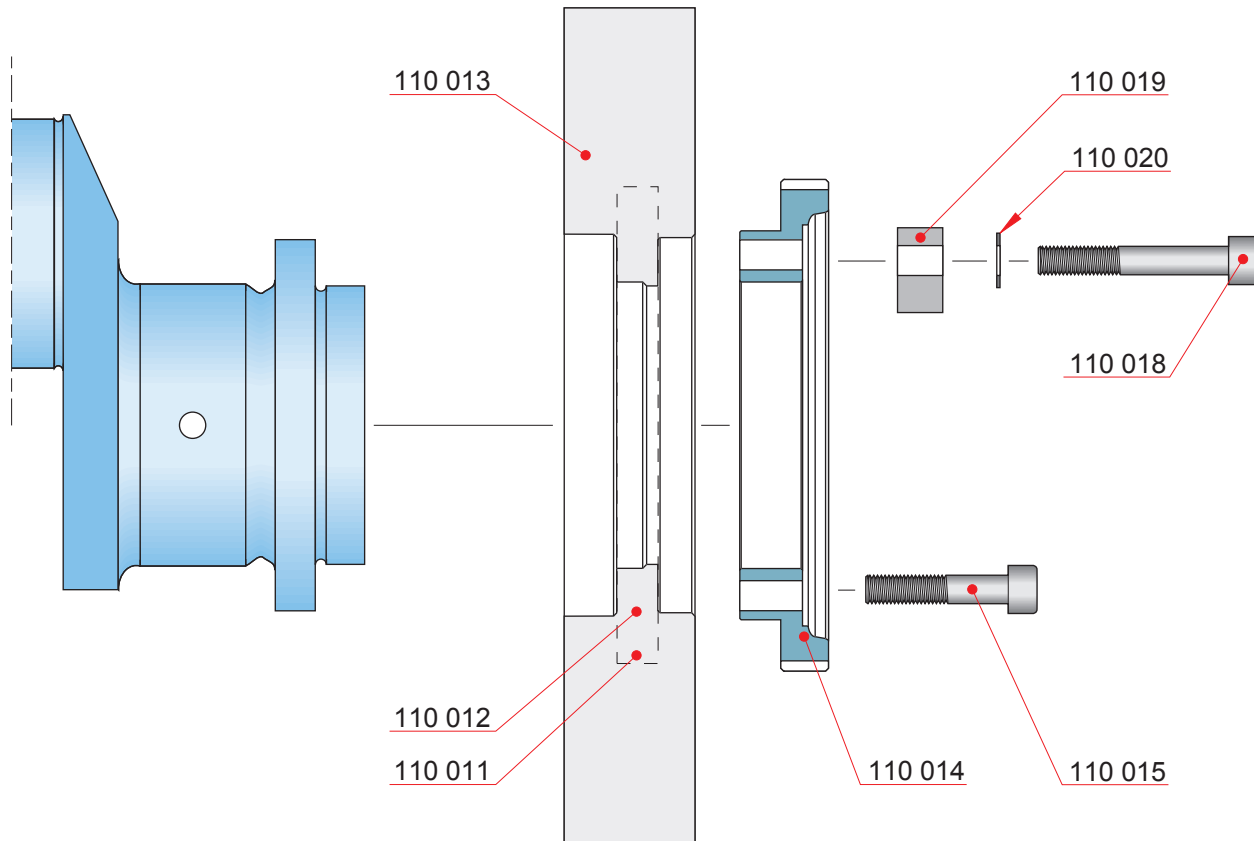
Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 011	Tuning mass (1)	1	-
110 012	Distance ring (1)	1	-
110 013	Vibration damper (1)	1	-
110 014	Gear wheel	1	15.3
110 015	Screw	*	0.5
110 018	Screw	*	0.7
110 019	Counterweight	*	2.0
110 020	Washer	*	-

NOTE! (1) one of these is used.

NOTE! * See page 7

Edition: D
 Page: 6(8)
 Updated: 01.06.2000

Crankshaft



Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 011	Tuning mass (1)	1	-
110 012	Distance ring (1)	1	-
110 013	Vibration damper (1)	1	-
110 014	Gear wheel	1	15.3
110 015	Screw	*	0.5
110 018	Screw	*	0.7
110 019	Counterweight	*	2.0
110 020	Washer	*	-

NOTE! (1) one of these is used.

NOTE! * See page 7

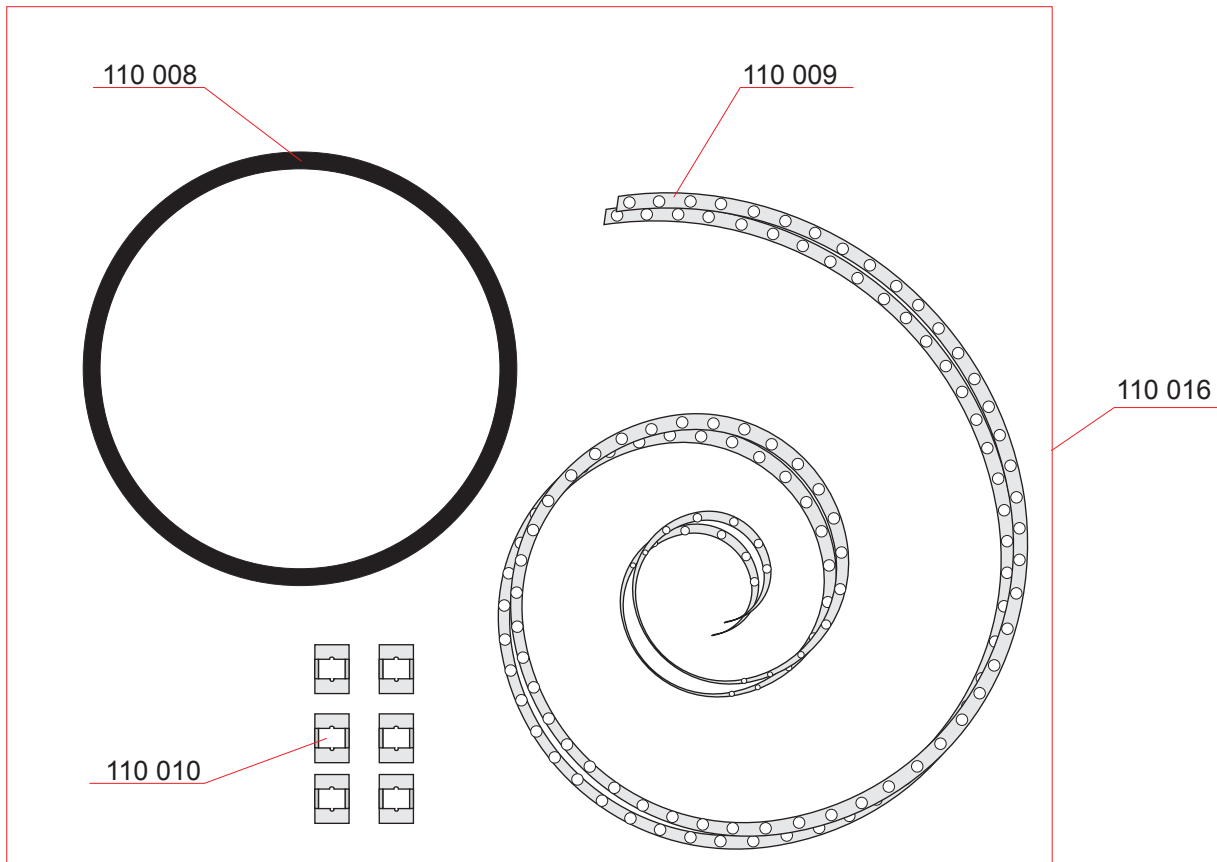
Crankshaft

Quantity according to number of cylinders

Part No	Pieces				
	4L20	5L20	6L20	8L20	9L20
110 002	-	10	12	16	18
110 003	-	20	24	32	36
110 004	-	10	12	16	18
110 005	4	5	6	6	9
110 015	8	8/5	8	16	12
110 018	-	4	-	-	4
110 019	-	1	-	-	1
110 020	-	4	-	-	4
110 021	4	5	6	8	9

Edition: D
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 Updated: 01.06.2000

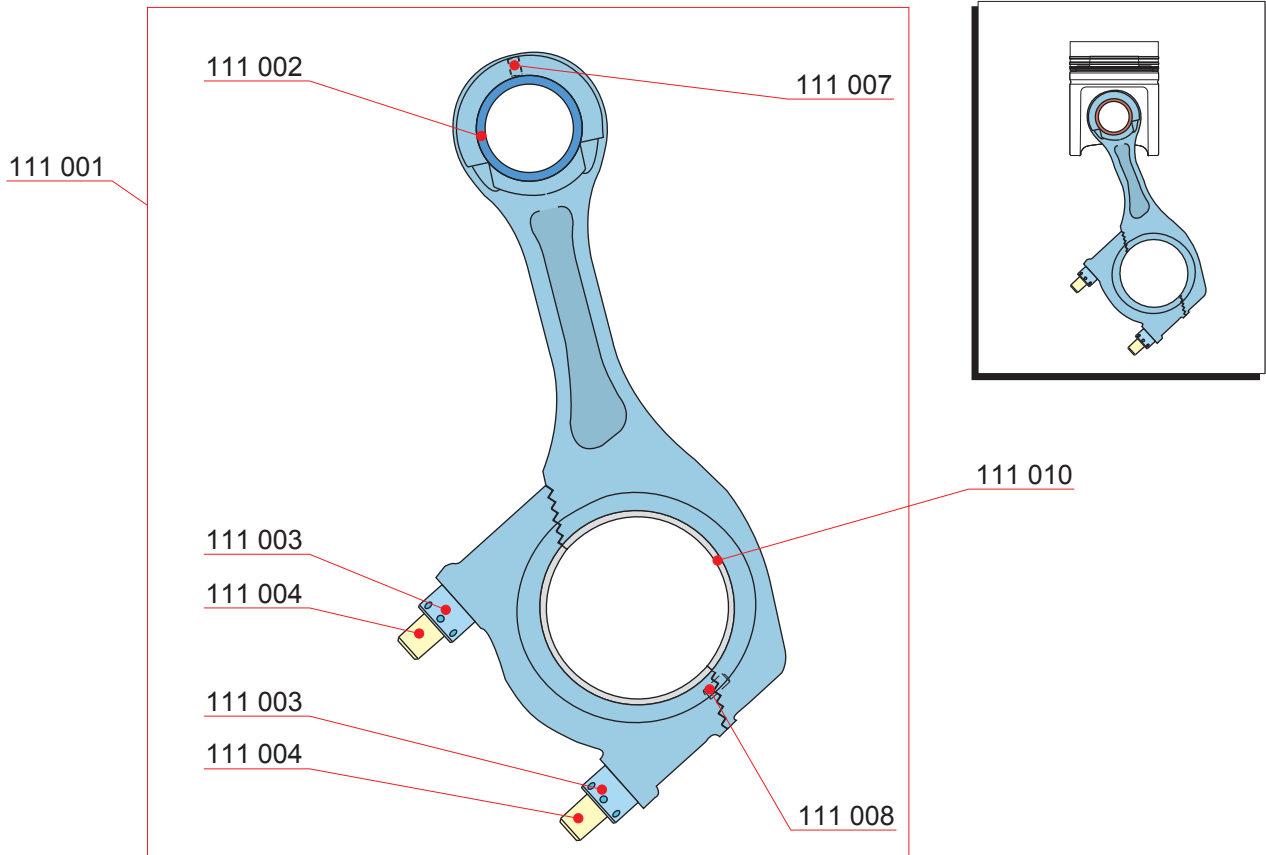
Crankshaft



Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 016	V-ring spare part kit	1	0.4
110 008	Sealing ring	1	0.2
110 009	Strap	*	-
110 010	Stretcher	6	-

NOTE! * L=1.7 meters

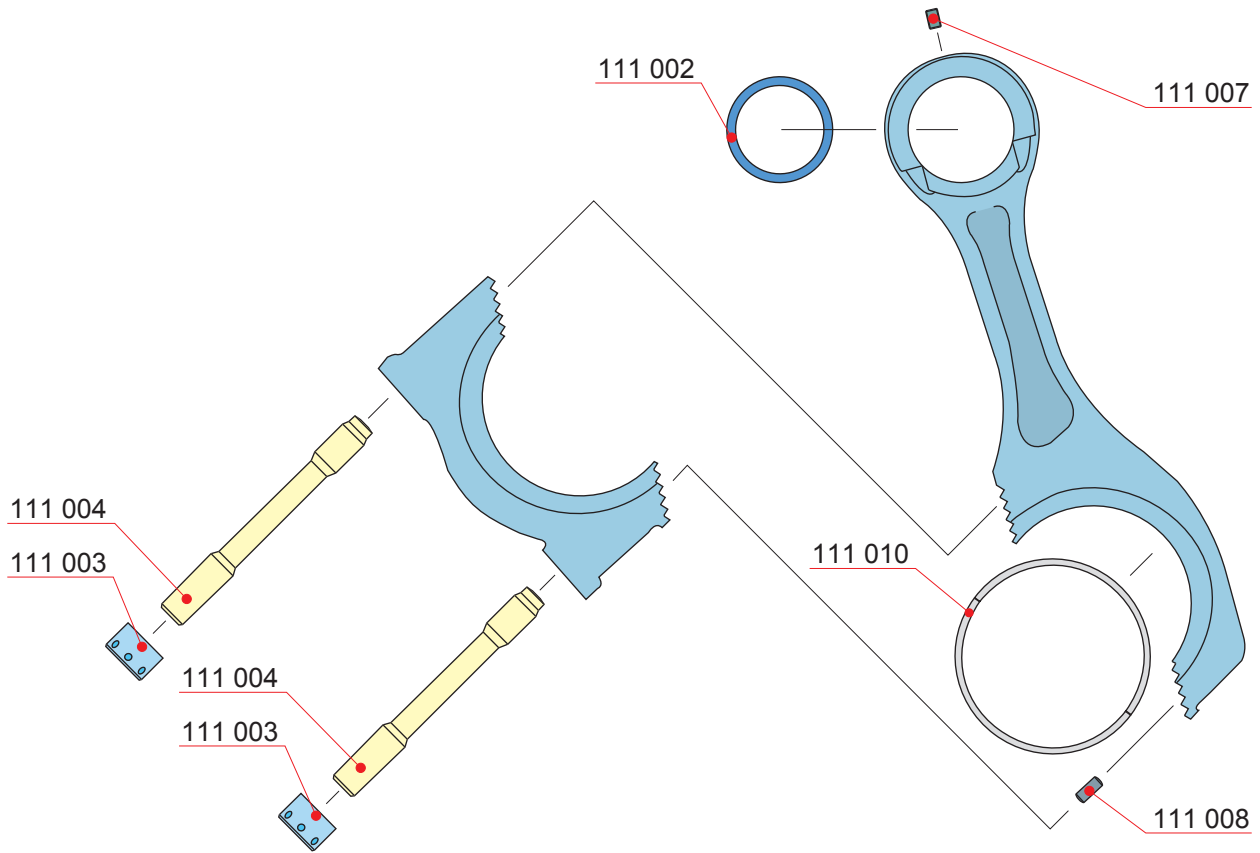
Connecting rod



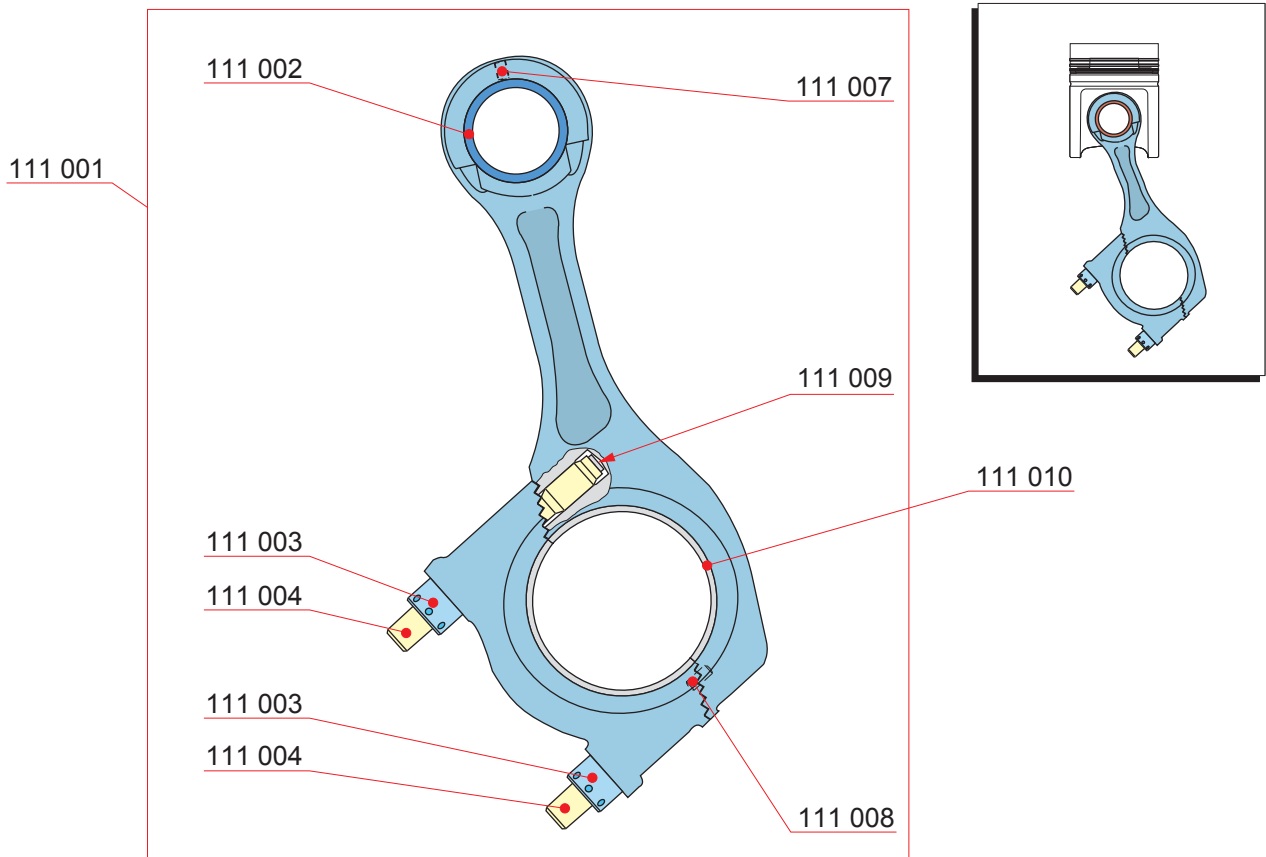
Part No.	Description	Qty [Pcs]	Wt. [Kg]
111 001	Connecting rod	1	38.8
111 002	Gudgeon pin bearing bush	1	1.2
111 003	Nut	2	0.3
111 004	Screw	2	-
111 007	Plug	1	-
111 008	Pin	1	-
111 010	Big end bearing kit	1	-

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Updated: 13.06.2012

Connecting rod



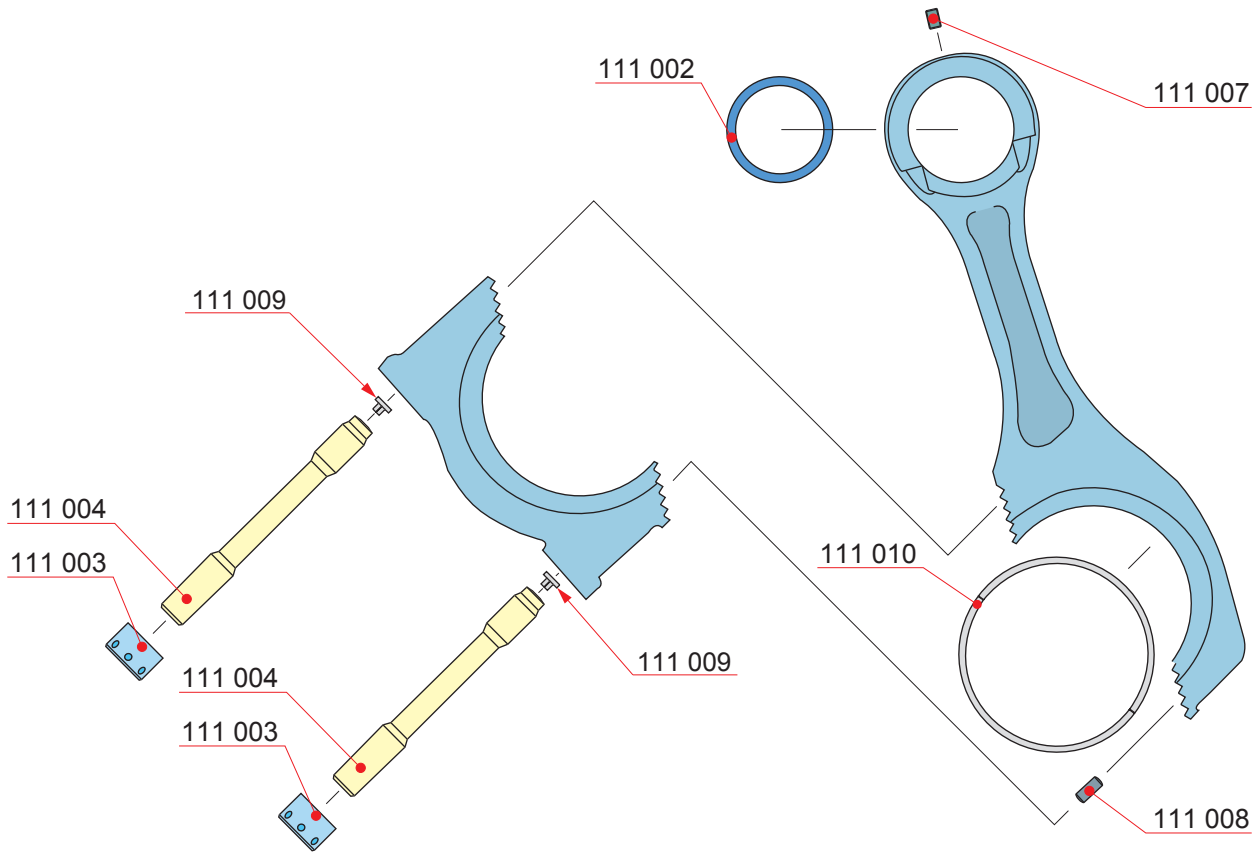
Connecting rod



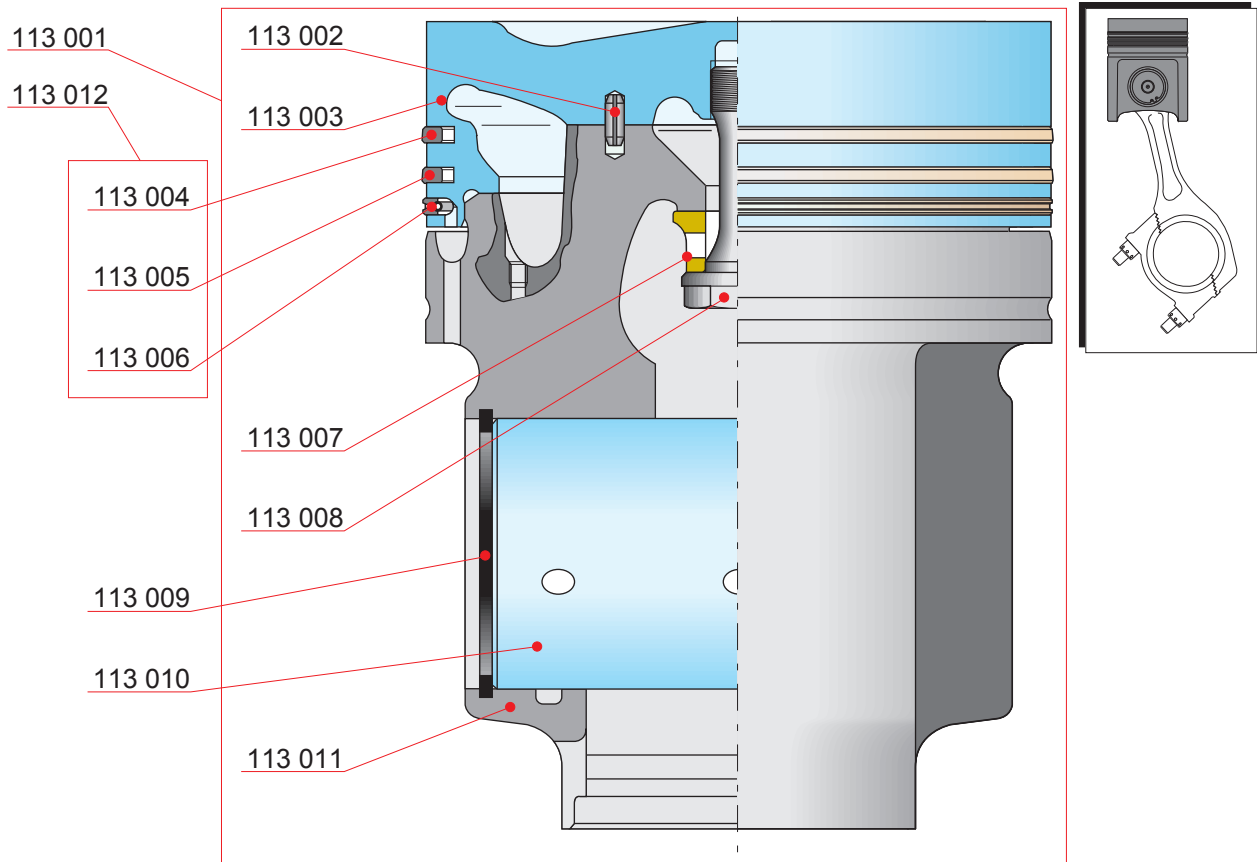
Part No.	Description	Qty [Pcs]	Wt. [Kg]
111 001	Connecting rod	1	-
111 002	Gudgeon pin bearing bush	1	-
111 003	Nut	2	-
111 004	Screw	2	-
111 007	Plug	1	-
111 008	Pin	1	-
111 009	Plug	2	-
111 010	Big end bearing set	1	-

Edition: B
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Updated: 13.06.2012

Connecting rod



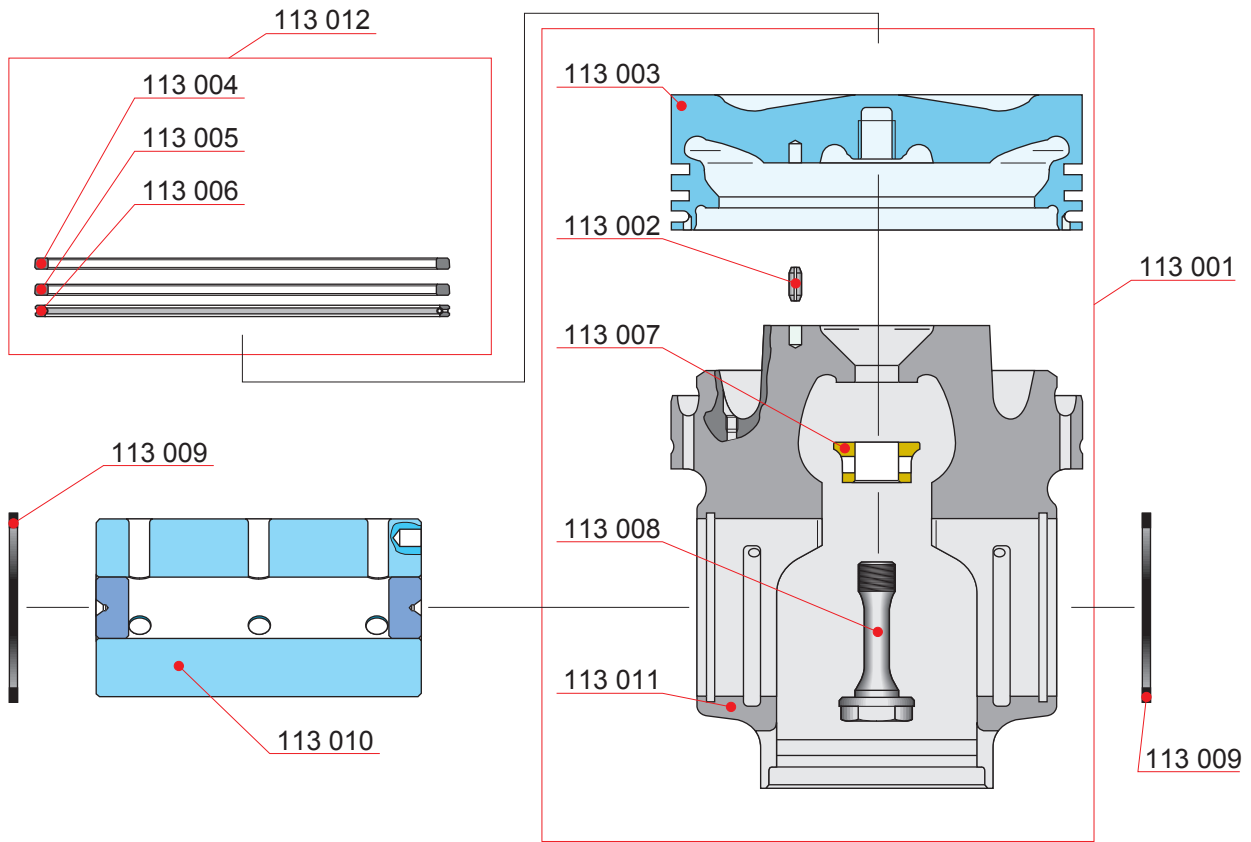
Piston



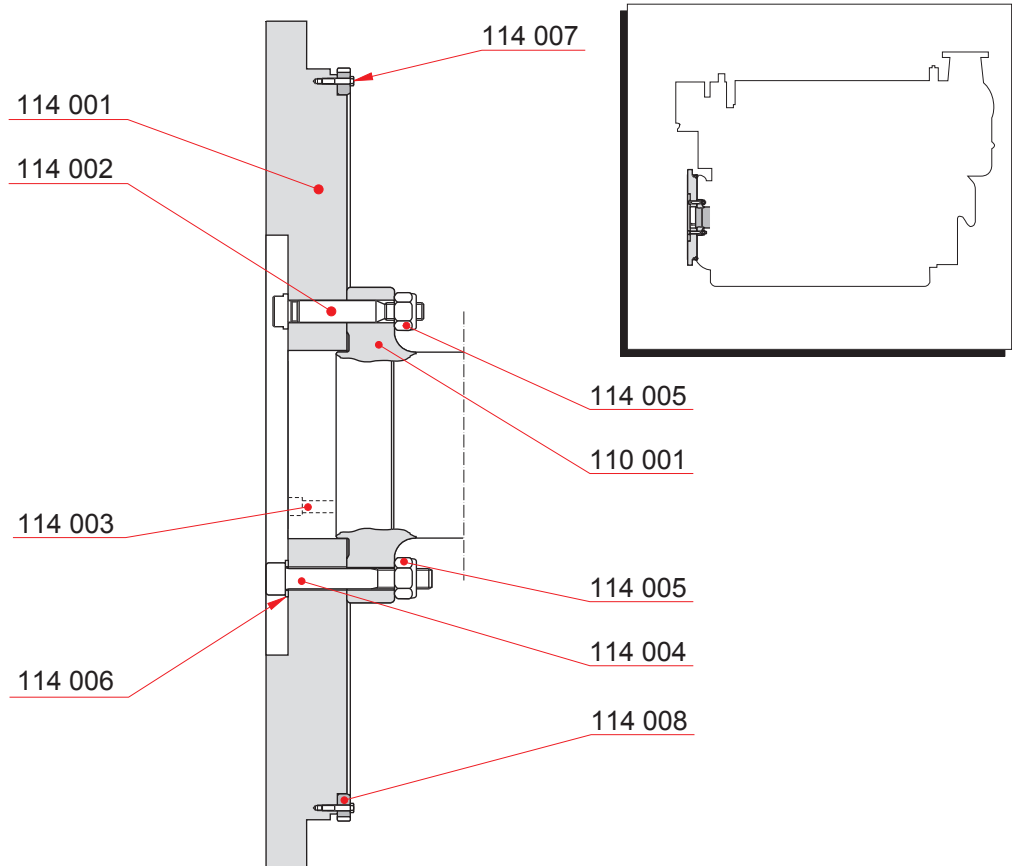
Part No.	Description	Qty [Pcs]	Wt. [Kg]
113 001	Piston	1	21.8
113 002	Pin	2	0.7
113 003	Piston crown	1	0.5
113 007	Washer	1	-
113 008	Screw	1	0.2
113 011	Piston skirt	1	15.0
113 009	Securing ring	2	-
113 010	Gudgeon pin	1	7.2
113 012	Piston ring set	1	0.5
113 004	Piston ring I	1	0.7
113 005	Piston ring II	1	0.3
113 006	Piston ring III	1	0.3

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Updated: 05.03.1996

Piston



Flywheel



Part No.	Description	Qty [Pcs]	Wt. [Kg]
110 001	Crankshaft	1	-
114 001	Flywheel	1	-
114 007	Screw	20	-
114 008	Gear rim	1	-
114 002	Fitting screw	*	0.4
114 003	Screw	3	-
114 004	Screw	*	-
114 005	Nut	8	-
114 006	Washer	*	-

NOTE! * See page 2

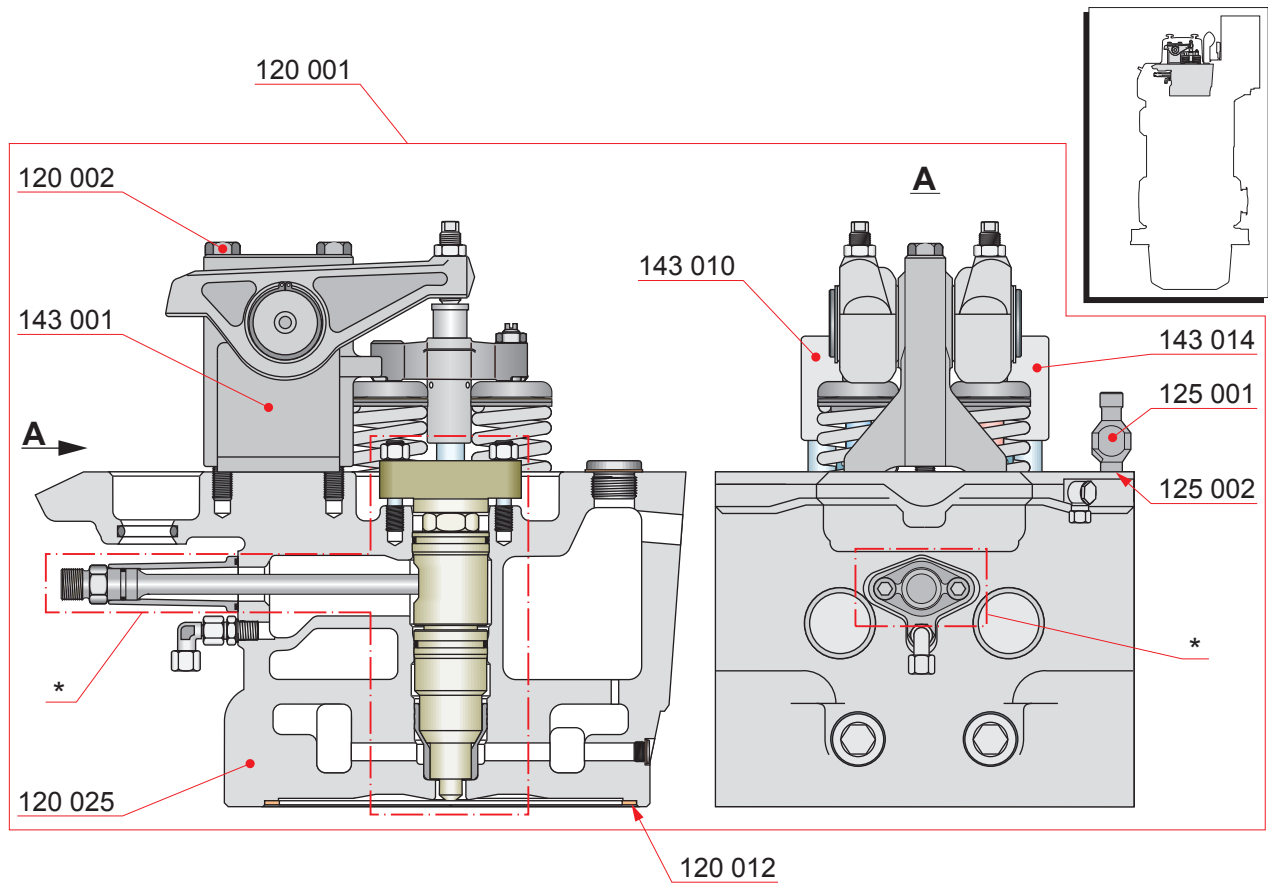
Edition: A
Page: 2(2)
Updated: 14.02.1997

Flywheel

Quantity according to number of cylinders

Part No	Pieces				
	4L20	5L20	6L20	8L20	9L20
114 002	2	4	4	4	4
114 004	6	4	4	4	4
114 006	6	4	4	4	4

Cylinder head, complete

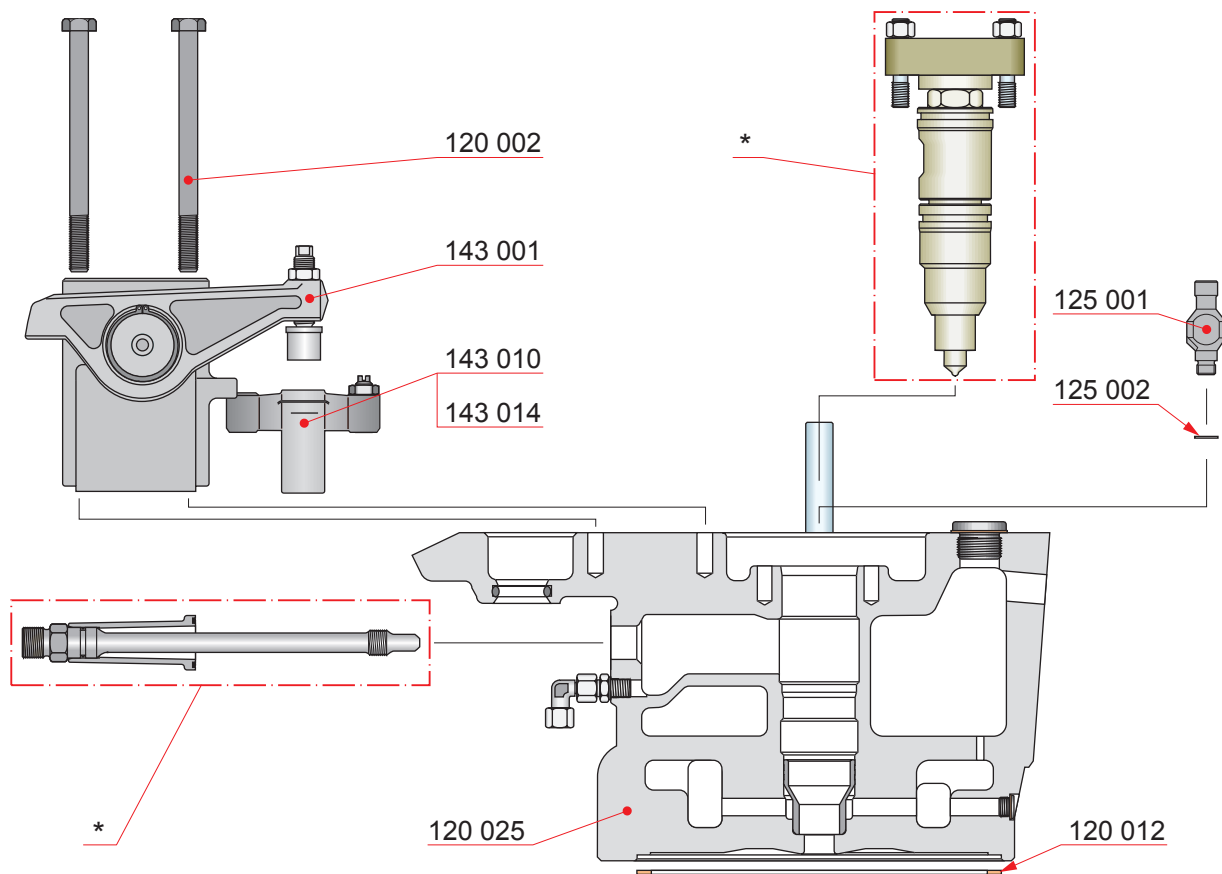


Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 001	Cylinder head, complete	1	120
120 002	Screw	2	0.3
120 025	Cylinder head with inlet and exhaust valve	1	89.5
125 001	Indicator valve (2)	1	0.6
125 002	Sealing ring selection (2)	1	-
143 001	Rocker arms with bracket (1)	1	9.8
143 010	Yoke for exhaust valve, compl. (1)	1	-
143 014	Yoke for inlet valve, compl. (1)	1	-
120 012	Gasket	1	-

NOTE! (1) See section 143-
 NOTE! (2) See section 125-
 NOTE! * See section 167-
 NOTE! Injection valve and high pressure connection piece are included in the Part No. 120 001, Cylinder Head, Complete.

Edition: H
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Updated: 26.05.2014

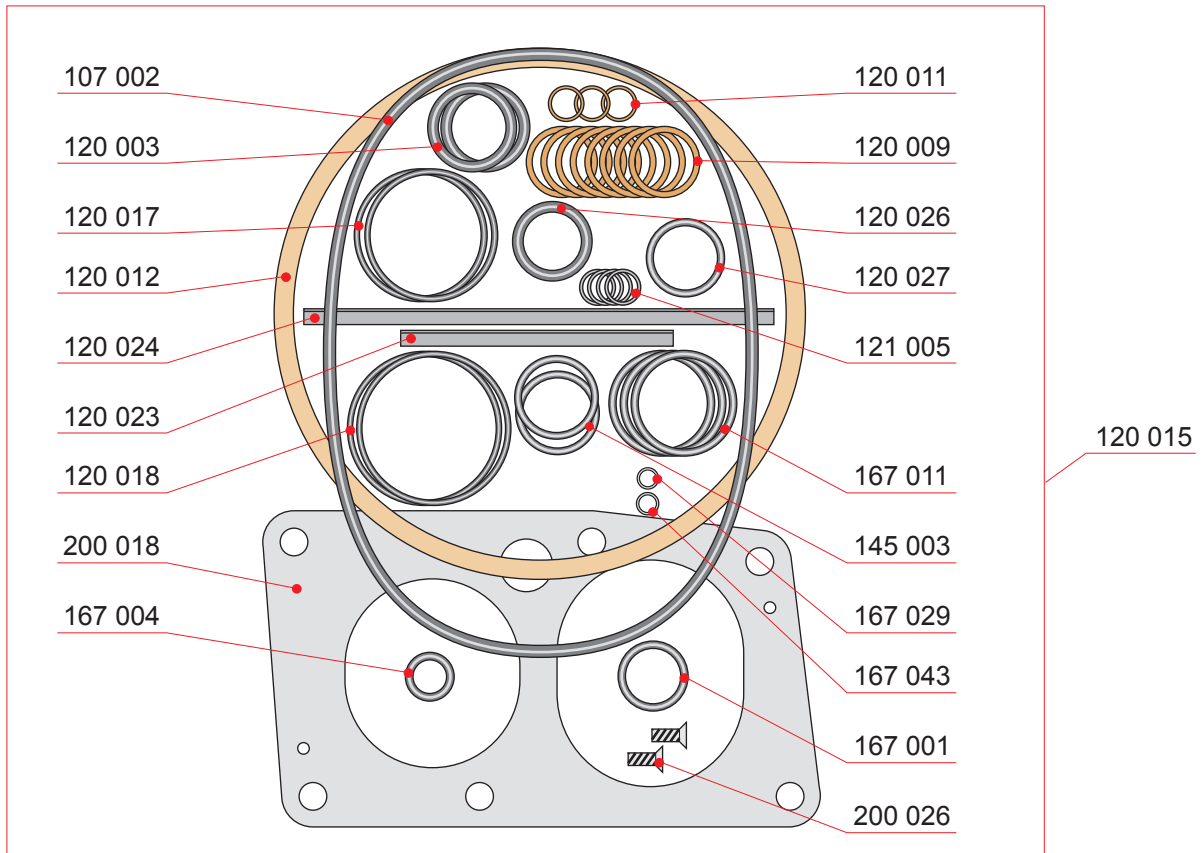
Cylinder head, complete



Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 002	Screw	2	0.3
120 012	Gasket	1	-
120 025	Cylinder head with inlet and exhaust valve	1	89.5
125 001	Indicator valve (2)	1	0.6
125 002	Sealing ring selection (2)	1	-
143 001	Rocker arms with bracket (1)	1	9.8
143 010	Yoke for exhaust valve, compl. (1)	1	-
143 014	Yoke for inlet valve, compl. (1)	1	-

NOTE! (1) See section 143-
NOTE! (2) See section 125-
NOTE! * See section 167-
NOTE! Injection valve and high pressure connection piece are included in the Part No. 120 001, Cylinder Head, Complete.

Cylinder head, complete



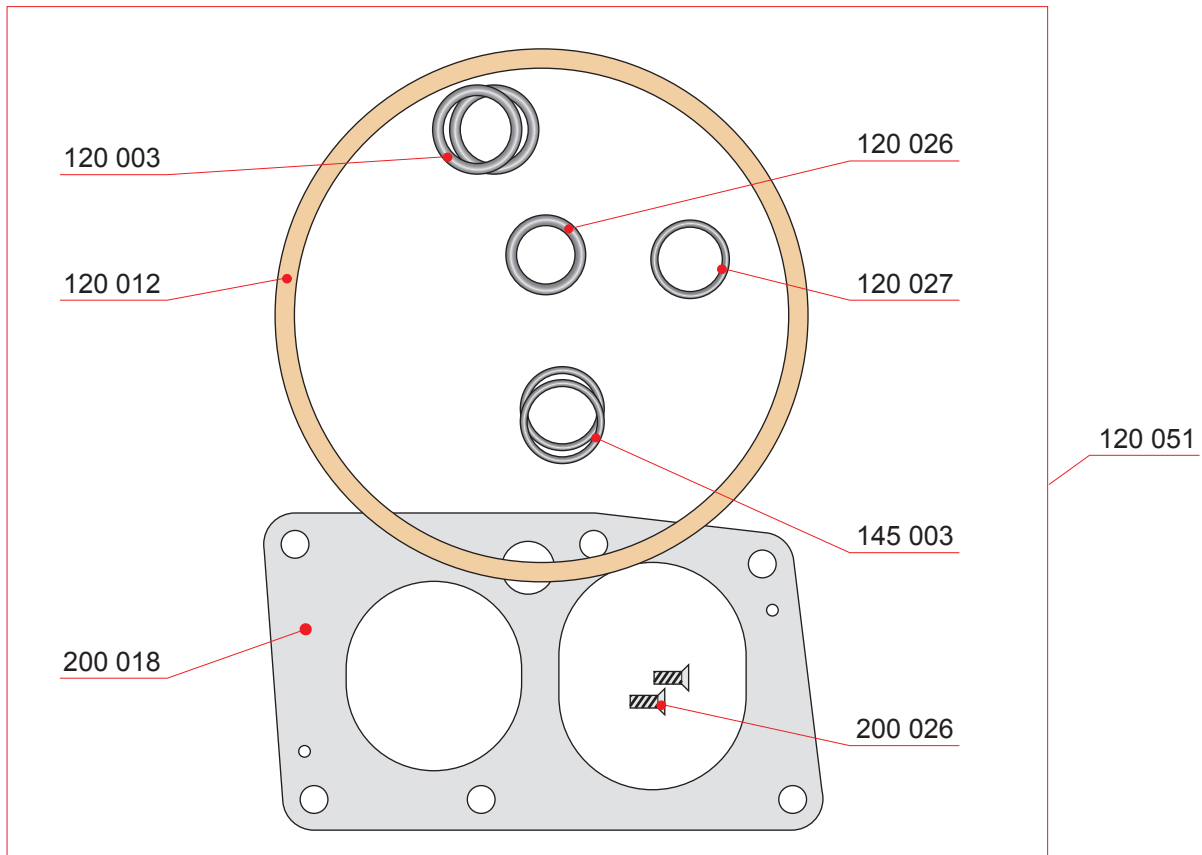
Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 015	Sealing kit for cylinder head overhaul	1	0.3
107 002	Hose gasket for cylinder head cover	1	-
120 003	O-ring	2	-
120 009	Sealing ring	8	-
120 011	Sealing ring	3	-
120 012	Gasket	1	-
120 017	O-ring	2	-
120 018	O-ring (*)	2	-
120 023	Gasket	1	-
120 024	Gasket	1	-
120 026	O-ring	1	-
120 027	O-ring	1	-
121 005	O-ring	4	-
145 003	O-ring	2	-
167 001	O-ring	1	-
167 004	O-ring	1	-
167 011	O-ring	3	-
167 029	O-ring	1	-
167 043	O-ring	1	-
200 018	Gasket	1	-
200 026	Rivet	2	-

NOTE! (*) Only for exhaust valve seat rings with two O-rings

Edition: H

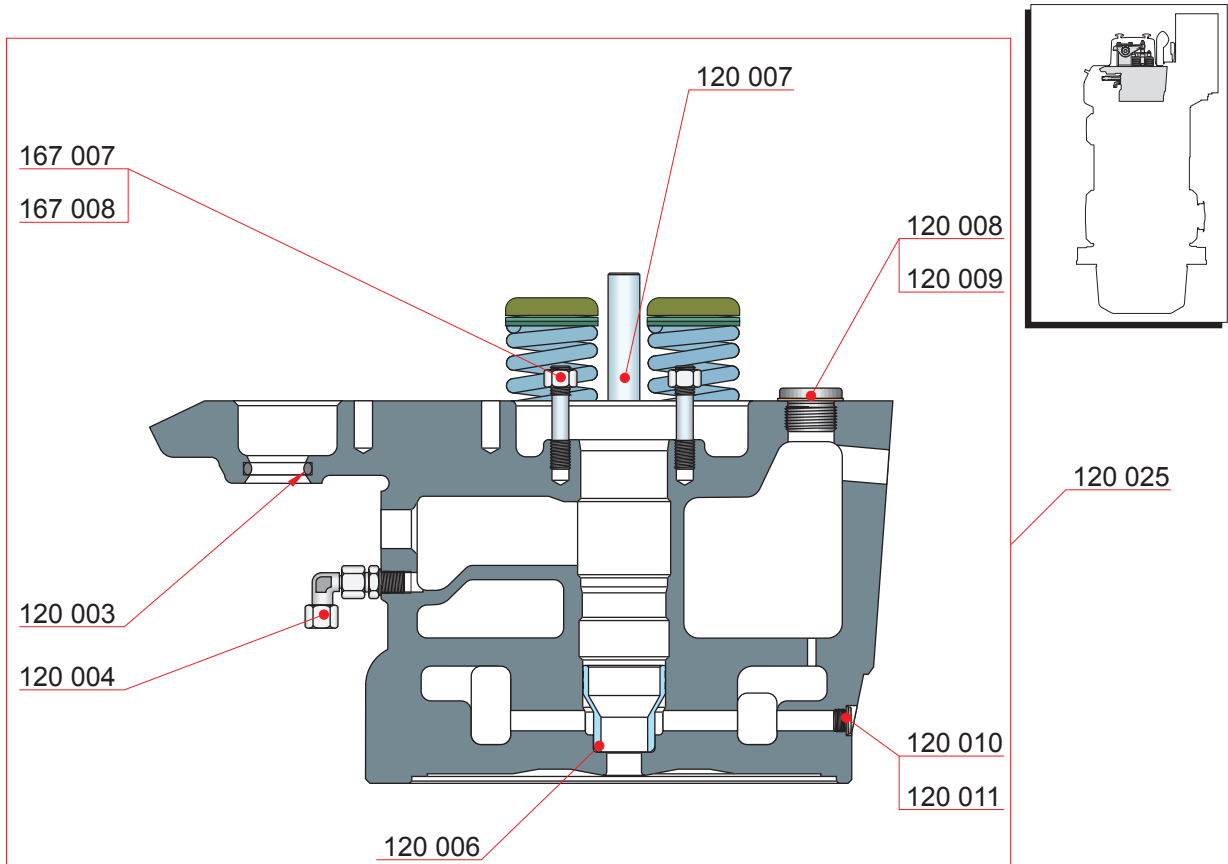
Page: 4(4)

Updated: 26.05.2014

Cylinder head, complete

Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 051	Sealing set for cylinder head removal	1	0.5
120 003	O-ring	2	-
120 012	Gasket	1	-
120 026	O-ring	1	-
120 027	O-ring	1	-
145 003	O-ring	2	-
200 018	Gasket	1	-
200 026	Rivet	2	-

Cylinder head

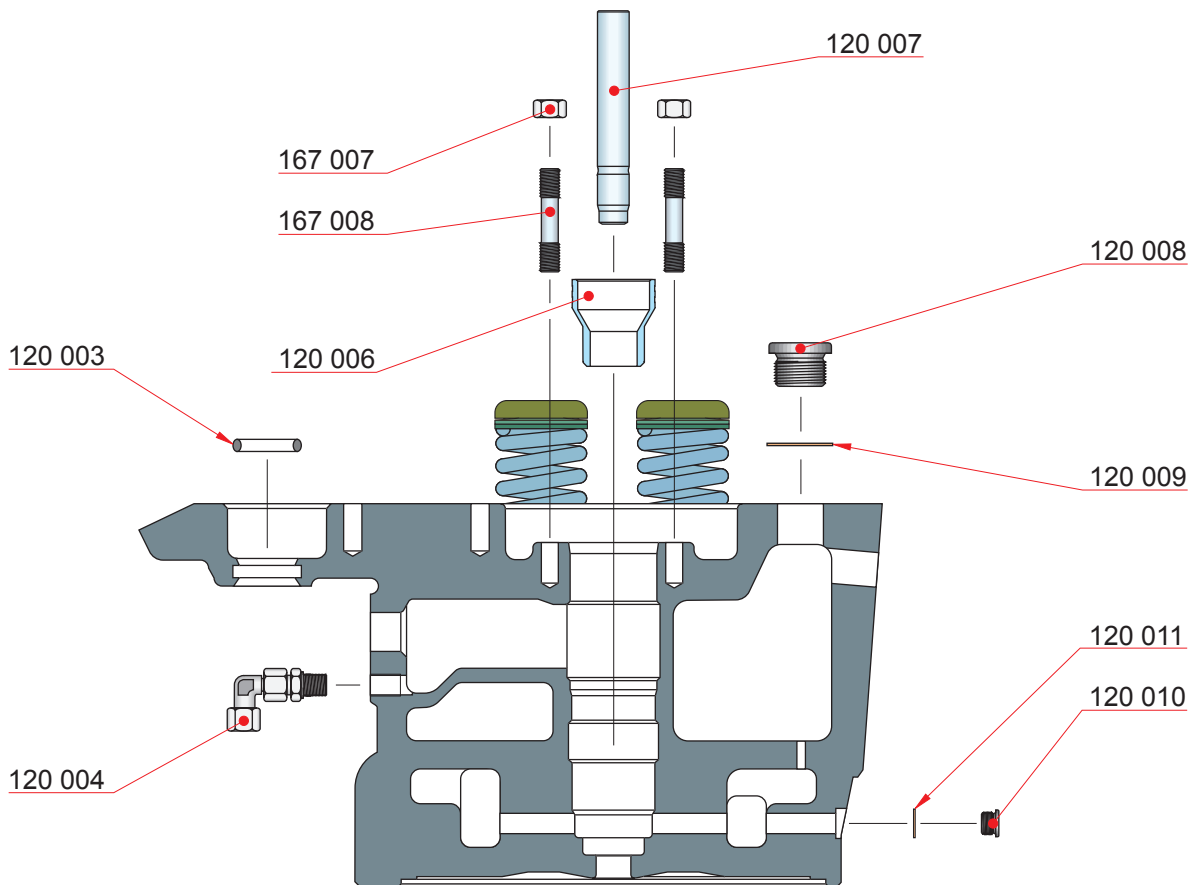


Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 025	Cylinder head with inlet and exhaust valve	1	78.0
120 003	O-ring	2	-
120 004	Pipe union	1	-
120 006	Sleeve	1	0.2
120 007	Yoke pin	2	0.3
120 008	Plug	8	-
120 009	Sealing ring	8	-
120 010	Plug	3	-
120 011	Sealing ring	3	-
167 007	Nut (1)	2	-
167 008	Screw (1)	2	-

NOTE! (1) See section 167-XX.

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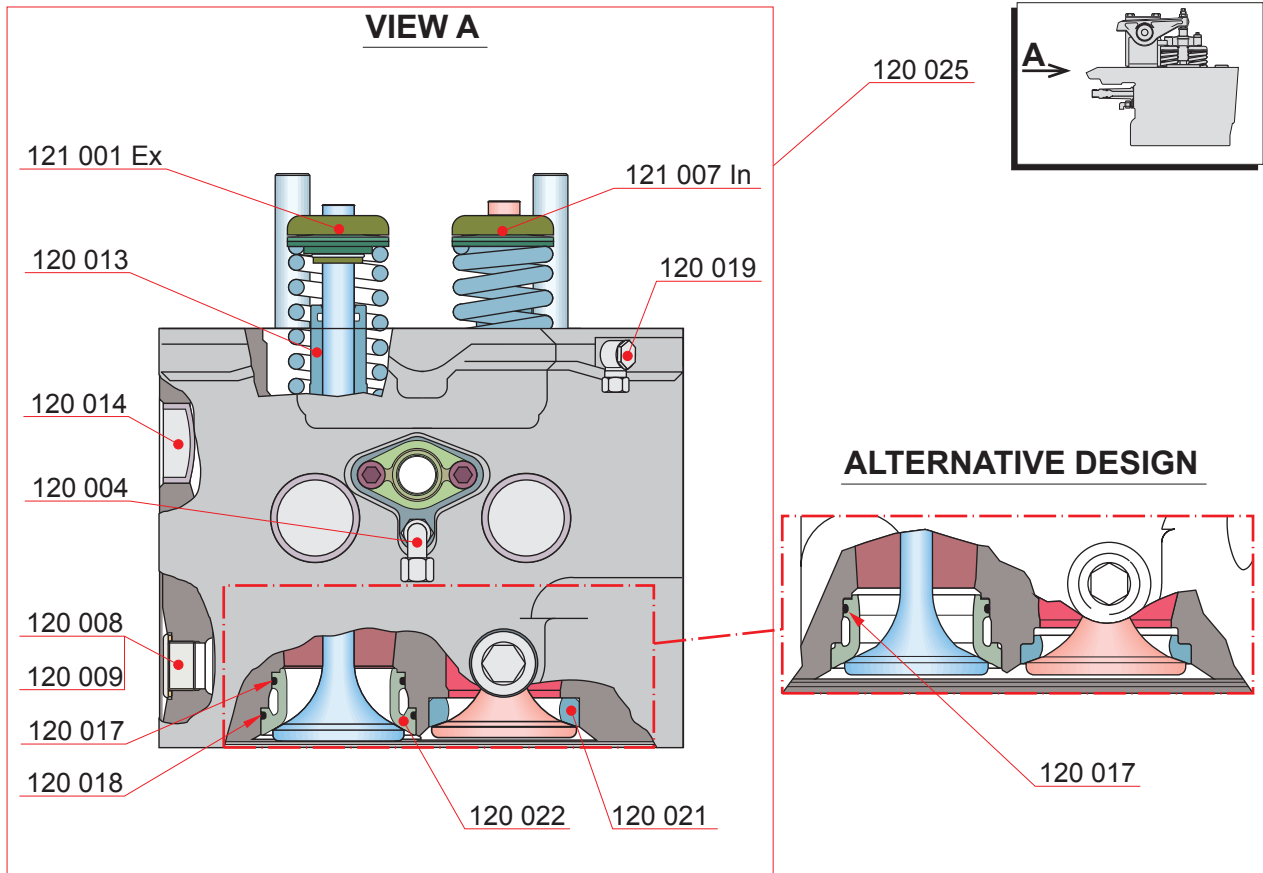
Cylinder head



Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 003	O-ring	1	-
120 004	Pipe union	1	-
120 006	Sleeve	1	0.2
120 007	Yoke pin	2	0.3
120 008	Plug	8	-
120 009	Sealing ring	8	-
120 010	Plug	3	-
120 011	Sealing ring	3	-
167 007	Nut (1)	2	-
167 008	Screw (1)	2	-

NOTE! (1) See section 167-XX.

Cylinder head



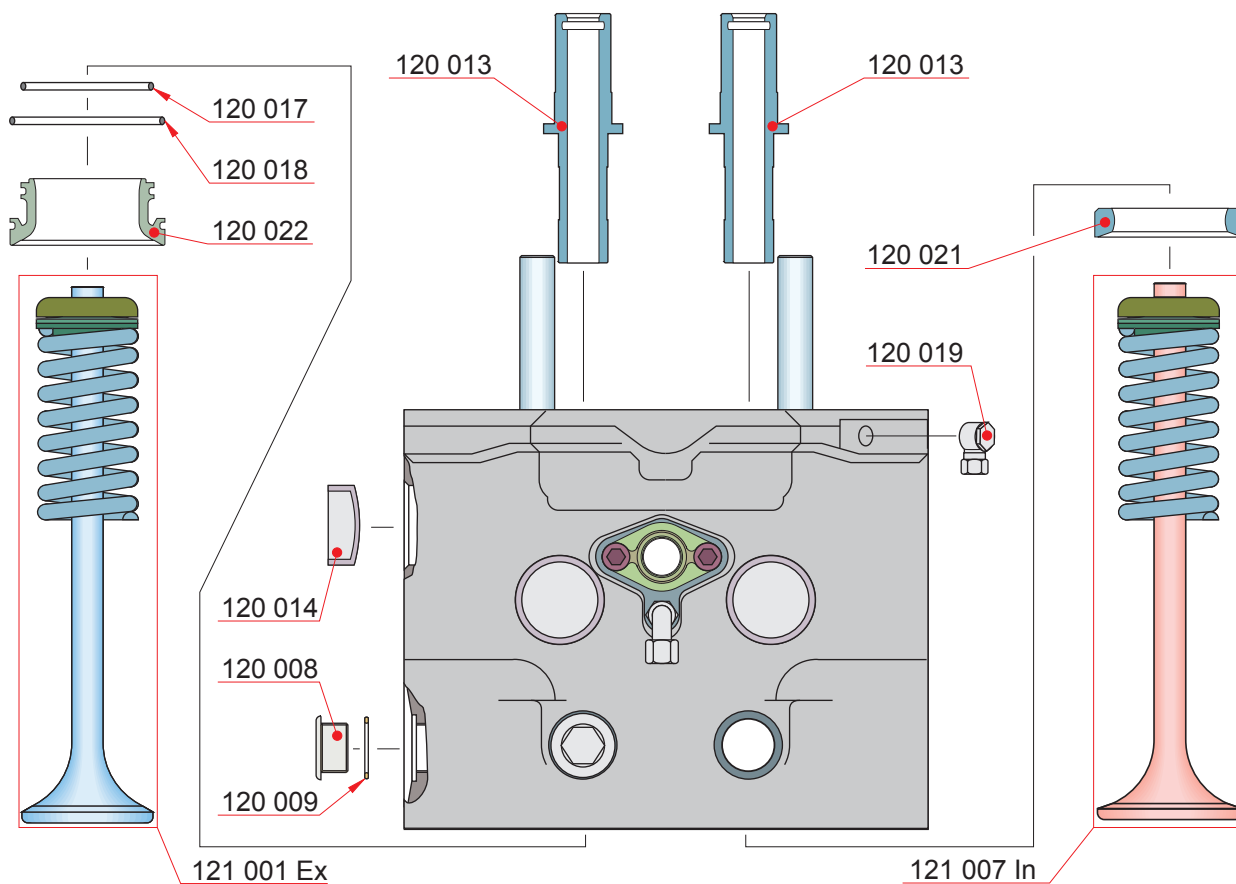
Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 025	Cylinder head with inlet and exhaust valve	1	78.0
120 004	Pipe union	1	-
120 008	Plug	8	-
120 009	Sealing ring	8	-
120 013	Valve guide	4	0.3
120 014	Sealing push-in cap (2)	7	-
120 017	O-ring	2	-
120 018	O-ring	2	-
120 019	Pipe union	1	-
120 021	Seat ring for inlet valve	2	0.1
120 022	Seat ring for outlet valve	2	0.3
121 001	Exhaust valve, compl. (3)	2	-
121 007	Inlet valve, compl. (3)	2	-

NOTE! (2) Check the diameter of the plug 45/50

NOTE! (3) See section 121-XX.

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Updated: 28.01.2003

Cylinder head

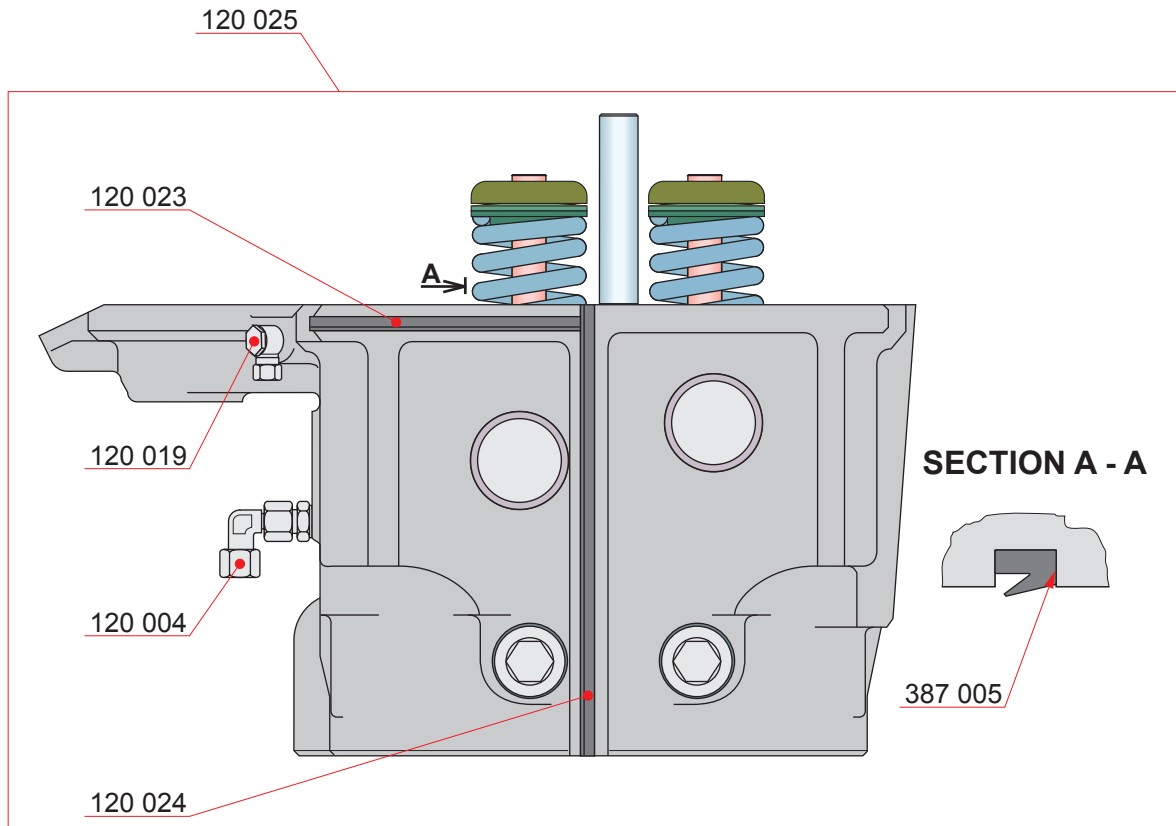


Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 008	Plug	8	-
120 009	Sealing ring	8	-
120 013	Valve guide	4	0.3
120 014	Sealing push-in cap (2)	7	-
120 017	O-ring	2	-
120 018	O-ring	2	-
120 019	Pipe union	1	-
120 021	Seat ring for inlet valve	2	0.1
120 022	Seat ring for outlet valve	2	0.3
121 001	Exhaust valve, compl. (3)	2	-
121 007	Inlet valve, compl. (3)	2	-

NOTE! (2) Check the diameter of the plug
45/50

NOTE! (3) See section 121-XX.

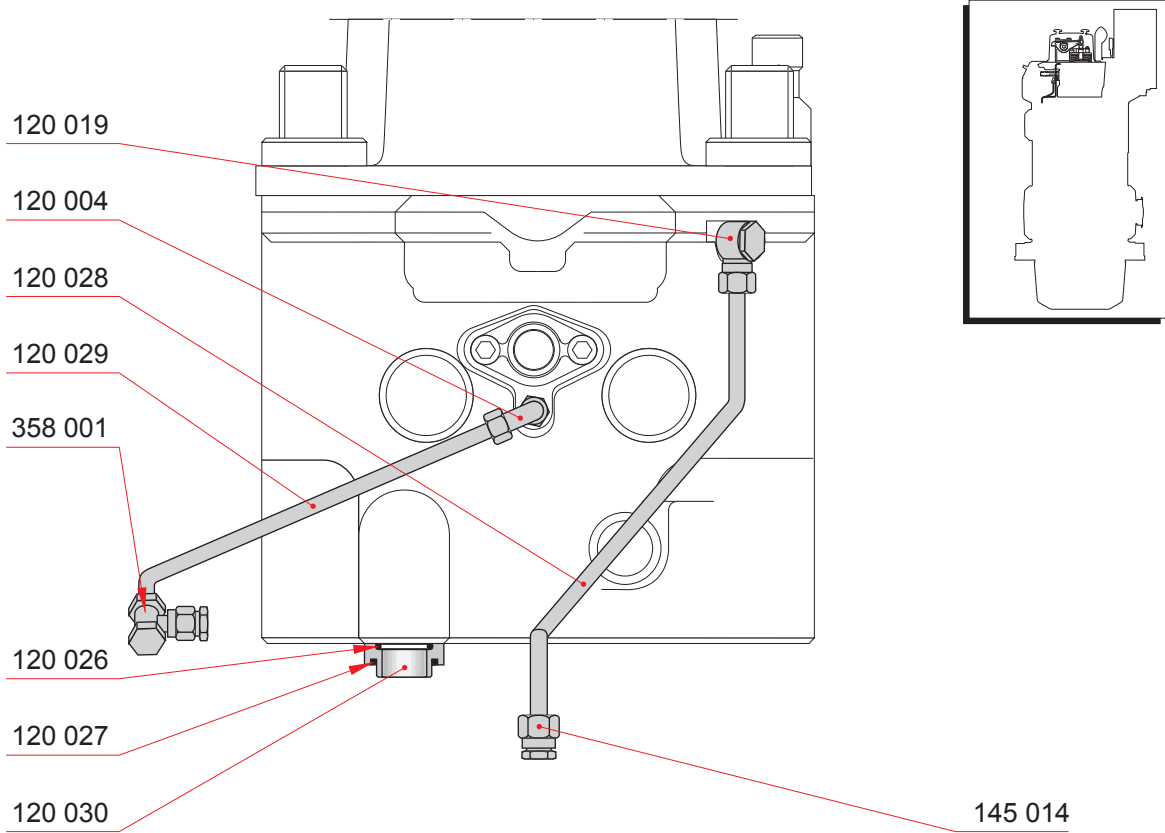
Cylinder head



Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 025	Cylinder head with inlet and exhaust valve	1	78.0
120 004	Pipe union	1	-
120 019	Pipe union	1	-
120 023	Gasket	1	-
120 024	Gasket	1	-
387 005	Glue compound	1	-

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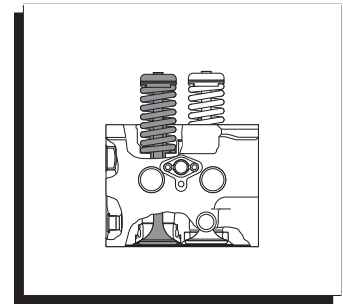
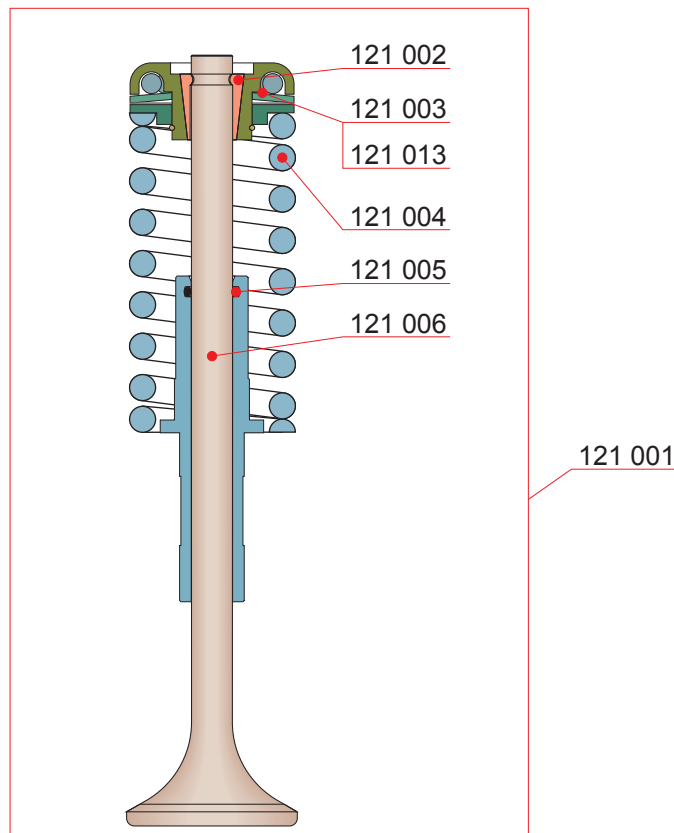
Cylinder head equipment



Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 004	Pipe union	1	-
120 019	Pipe union	1	-
120 026	O-ring	1	-
120 027	O-ring	1	-
120 028	Pipe	1	-
120 029	Pipe	1	-
120 030	Connection piece	1	-
145 014	Pipe union	1	-
358 001	Pipe union	1	-

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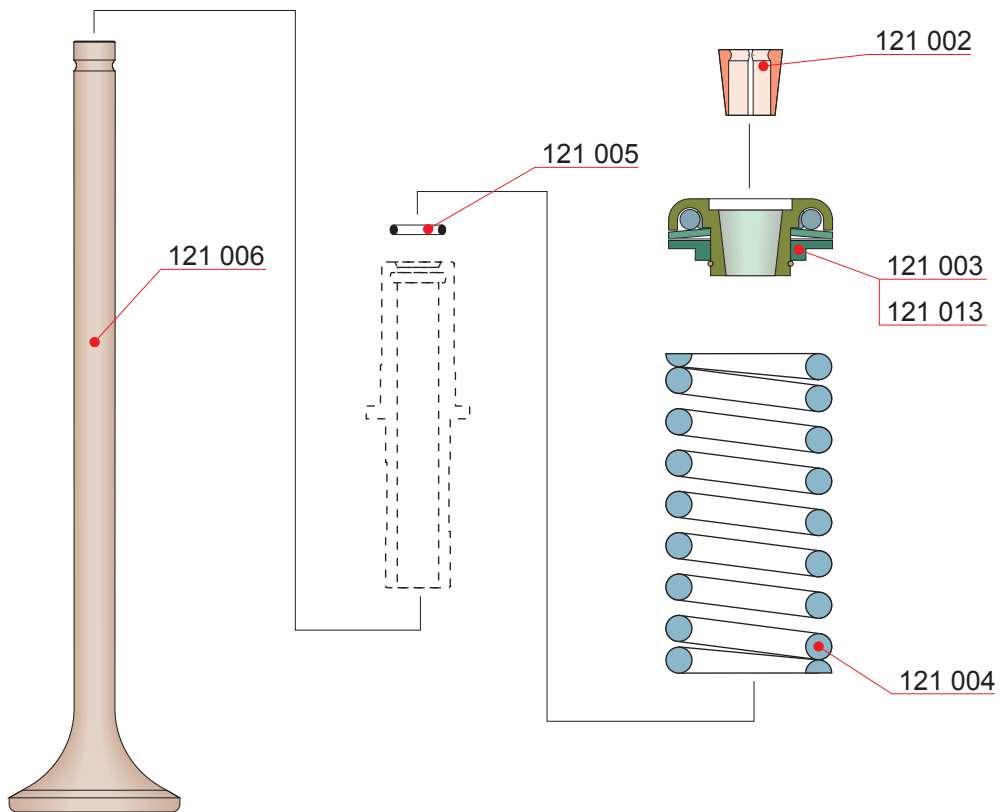
Exhaust valve assembly



Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 001	Exhaust valve, compl.	1	-
121 002	Valve cotter pair	1	-
121 003	Rotocap	1	-
121 013	Spring plate	1	-
121 004	Spring	1	0.5
121 005	O-ring	1	-
121 006	Exhaust valve	1	0.6

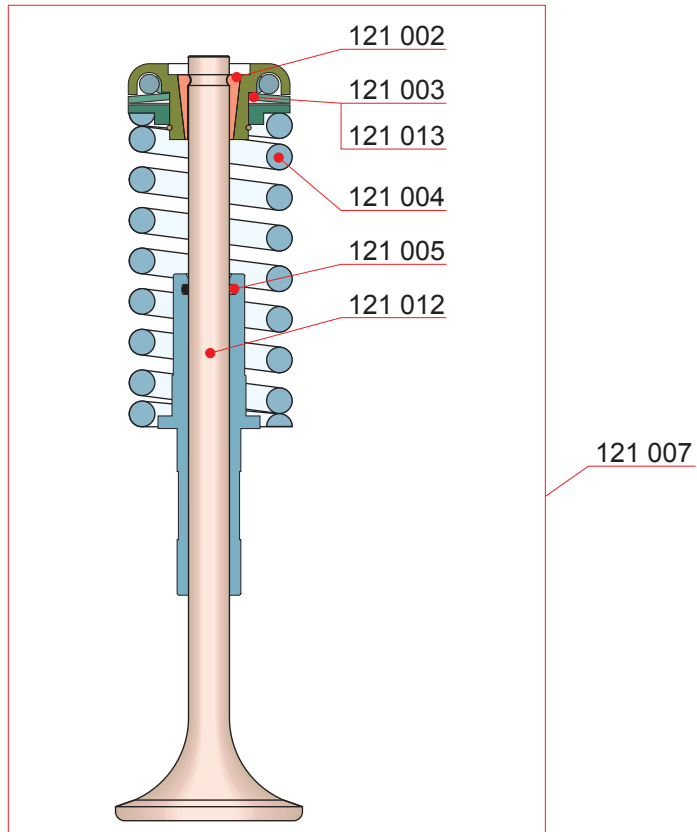
Edition: A
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 Updated: 29.10.1993

Exhaust valve assembly



Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 002	Valve cotter pair	1	-
121 003	Rotocap	1	-
121 004	Spring	1	0.5
121 005	O-ring	1	-
121 006	Exhaust valve	1	0.6
121 013	Spring plate	1	-

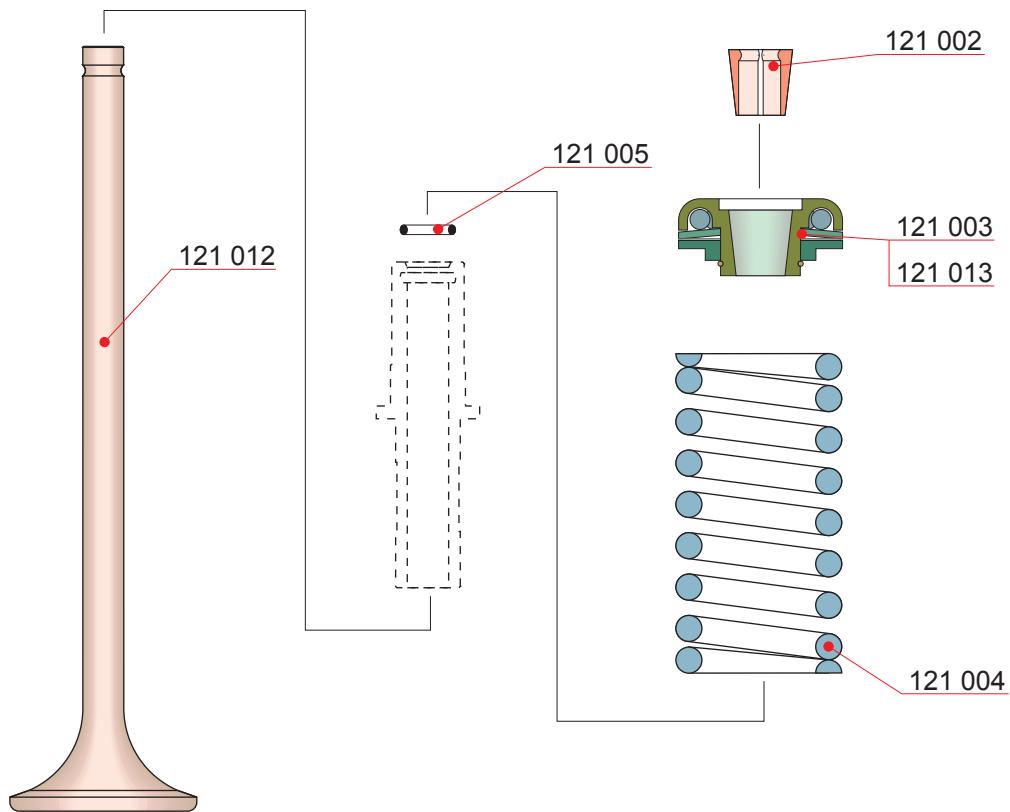
Inlet valve assembly



Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 007	Inlet valve, compl.	1	-
121 004	Spring	1	0.5
121 005	O-ring	1	-
121 002	Valve cotter pair	1	-
121 003	Rotocap	1	-
121 013	Spring plate	1	-
121 012	Inlet valve	1	0.7

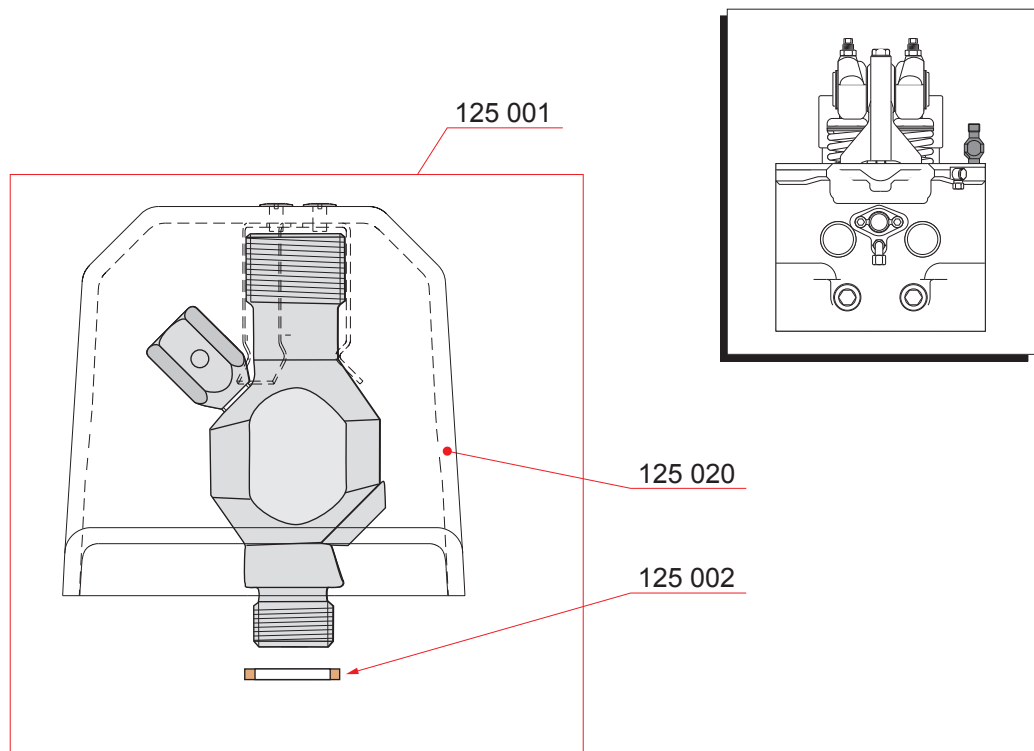
Edition: A
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 Updated: 02.06.1999

Inlet valve assembly



Part No.	Description	Qty [Pcs]	Wt. [Kg]
121 002	Valve cotter pair	1	-
121 003	Rotocap	1	-
121 004	Spring	1	0.5
121 005	O-ring	1	-
121 012	Inlet valve	1	0.7
121 013	Spring plate	1	-

Indicator valve

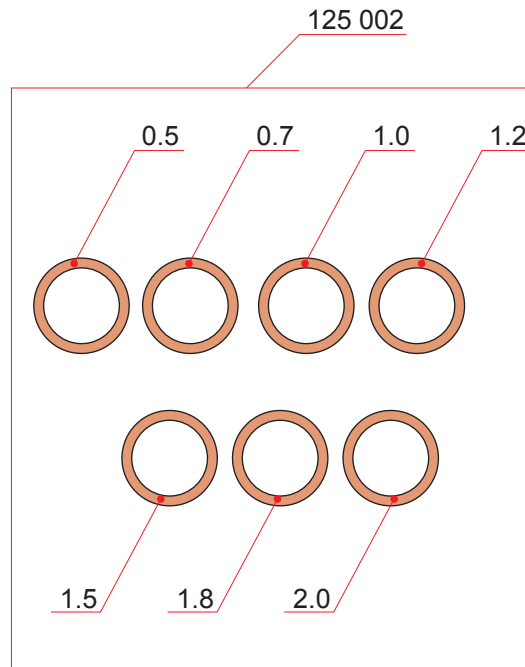


Part No.	Description	Qty [Pcs]	Wt. [Kg]
125 001	Indicator valve	1	-
125 002	Sealing ring selection (1)	1	-
125 020	Heat shield	1	0.3

NOTE! (1) See page 2.

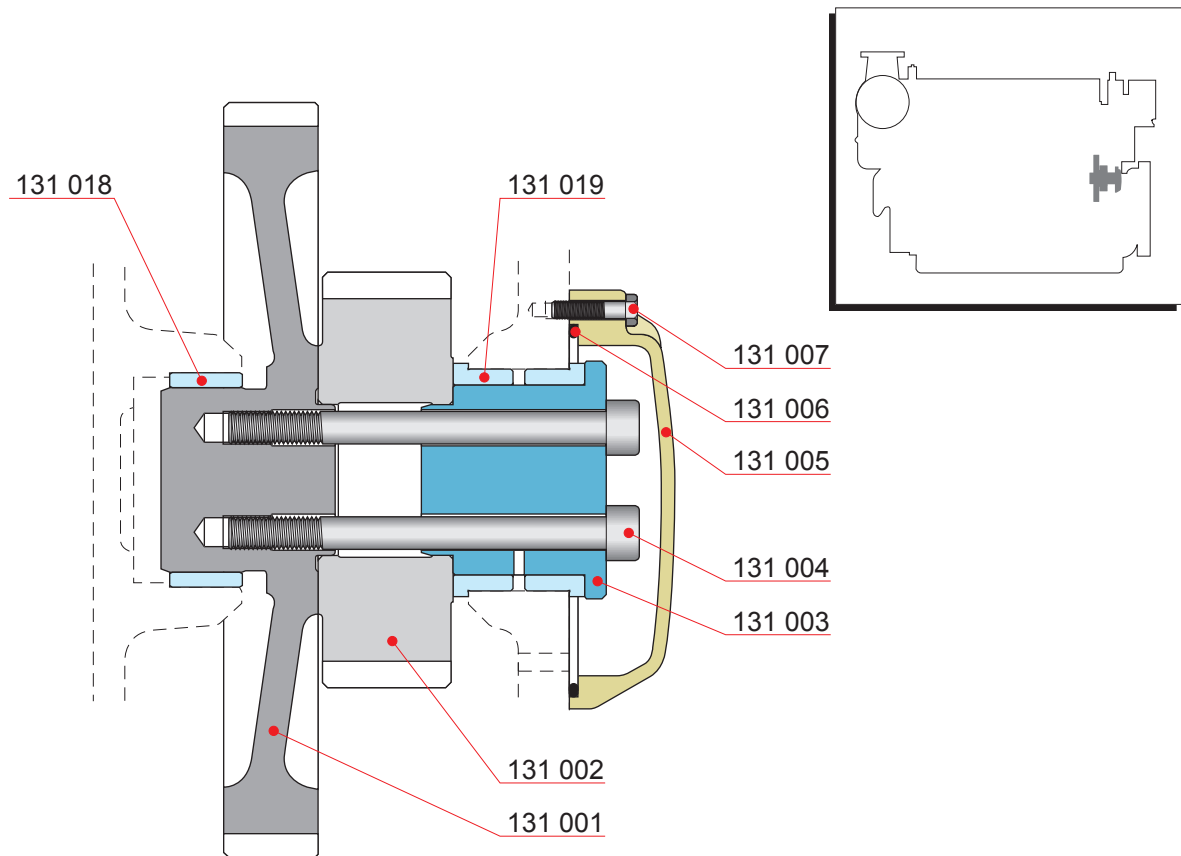
Edition: C
Page: 2(2)
Updated: 02.05.2003

Indicator valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
125 002	Sealing ring selection	1	-

Intermediate gears for camshaft drive



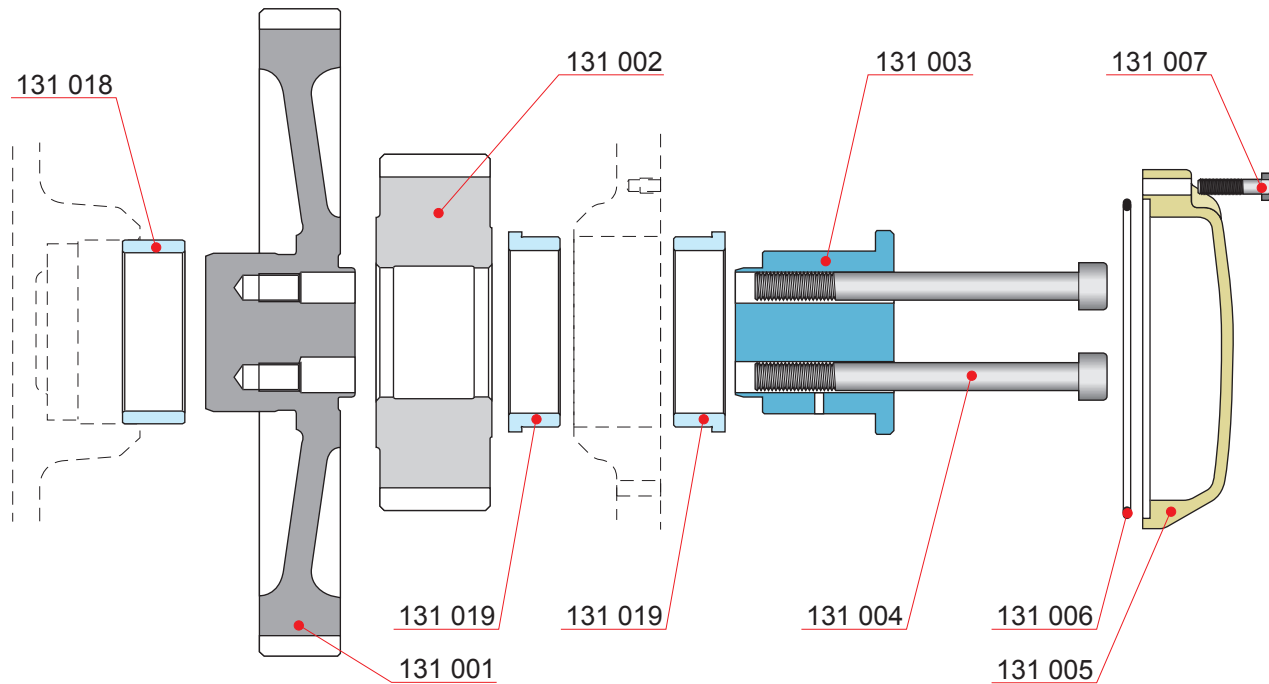
Part No.	Description	Qty [Pcs]	Wt. [Kg]
131 001	Bigger intermediate gear	1	27.4
131 002	Smaller intermediate gear	1	11.3
131 003	Bearing piece	1	4.4
131 004	Screw	6	0.5
131 005	Cover for intermediate gear	1	1.0
131 006	O-ring	1	-
131 007	Screw	4	-
131 018	Bearing bush	1	-
131 019	Bearing bush	2	-

Edition: A

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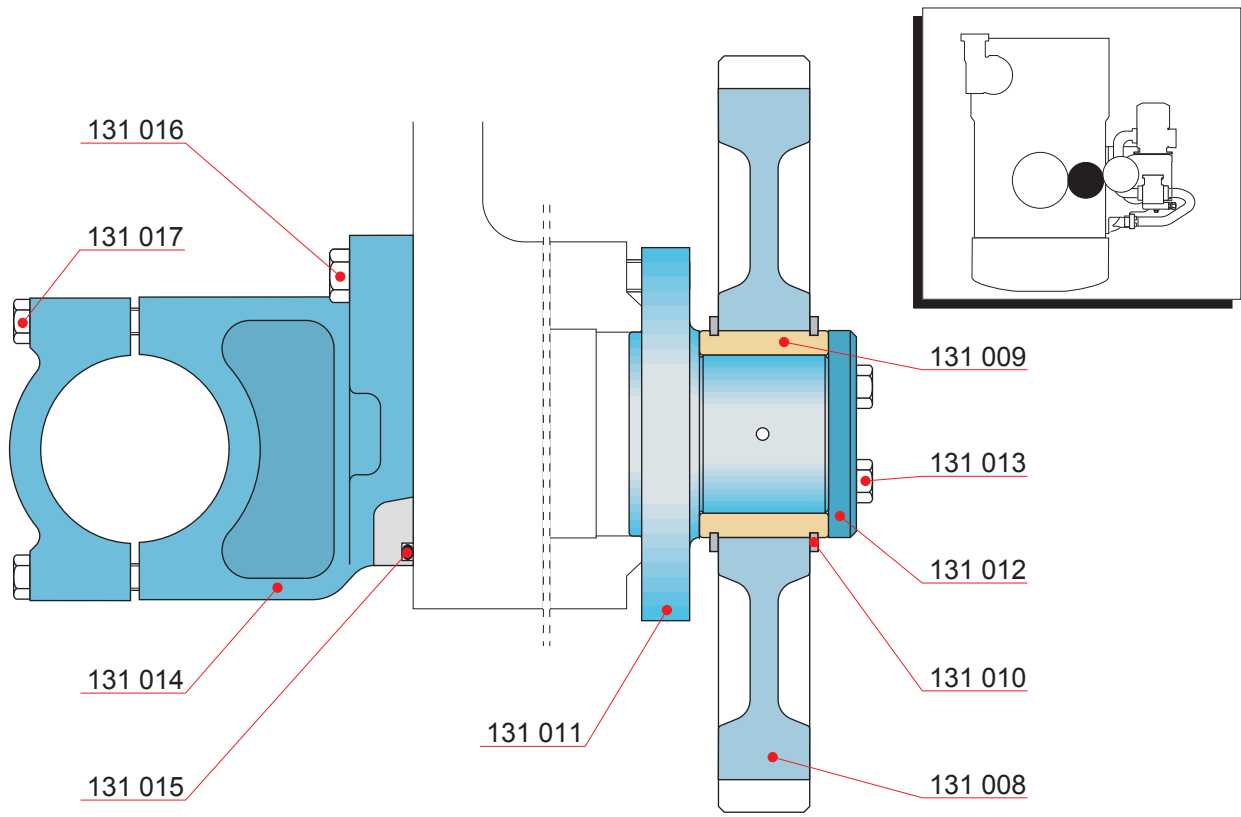
Updated: 29.10.1993

Intermediate gears for camshaft drive



Part No.	Description	Qty [Pcs]	Wt. [Kg]
131 001	Bigger intermediate gear	1	27.4
131 002	Smaller intermediate gear	1	11.3
131 003	Bearing piece	1	4.4
131 004	Screw	6	0.5
131 005	Cover for intermediate gear	1	1.0
131 006	O-ring	1	-
131 007	Screw	4	-
131 018	Bearing bush	1	-
131 019	Bearing bush	2	-

Intermediate gear for lubricating oil pump



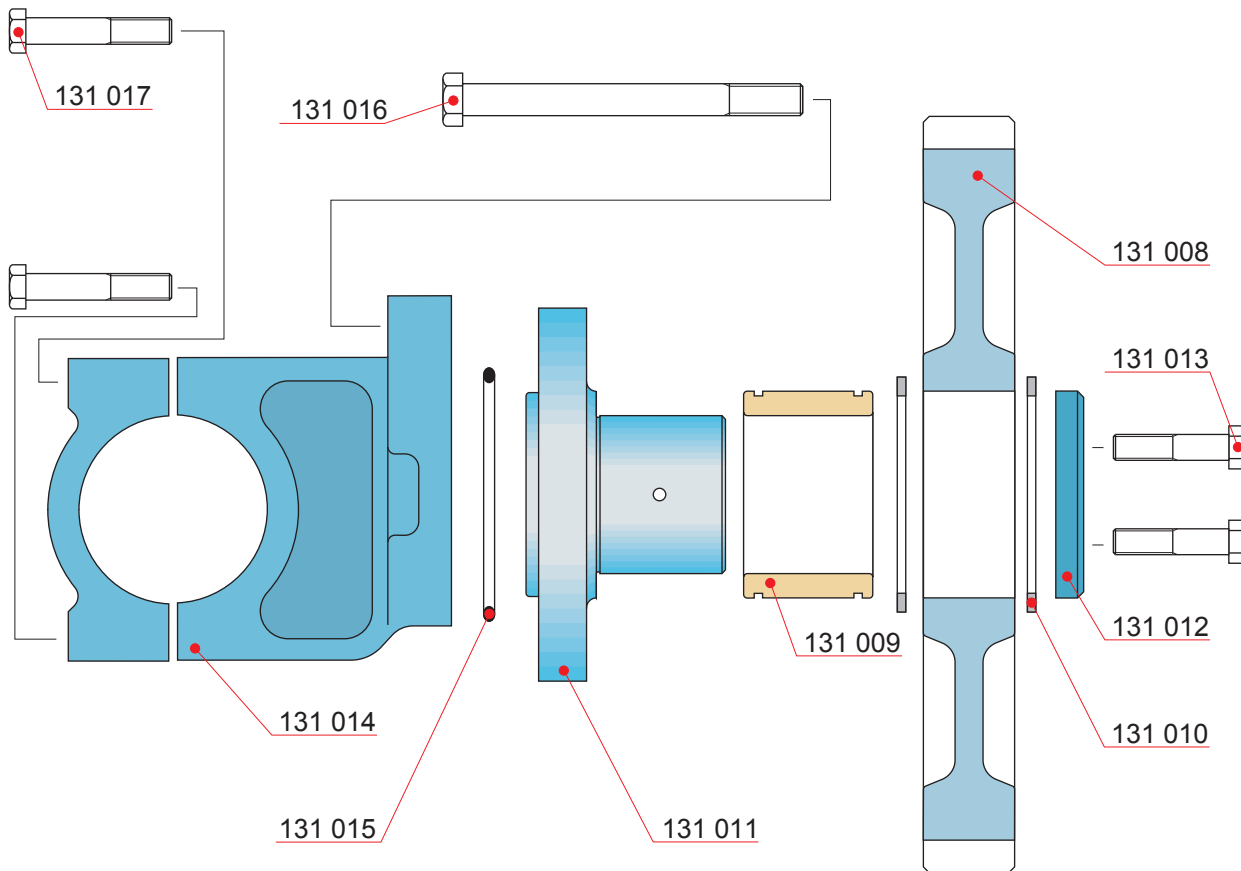
Part No.	Description	Qty [Pcs]	Wt. [Kg]
131 008	Intermediate gear	1	6.5
131 009	Bearing bush	1	0.4
131 010	Retaining ring	2	-
131 011	Shaft	1	2.1
131 012	End flange	1	0.2
131 013	Screw	2	-
131 014	Cover	1	1.9
131 015	O-ring	1	-
131 016	Screw	4	-
131 017	Screw	2	-

Edition: A

Page: 2(2)

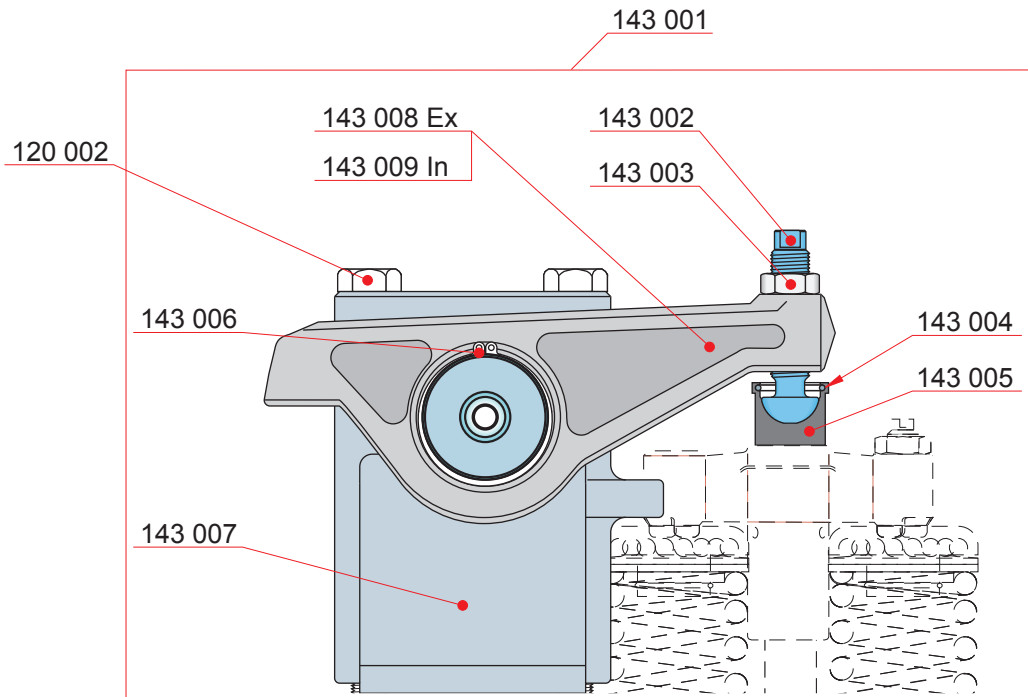
Updated: 29.10.1993

Intermediate gear for lubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
131 008	Intermediate gear	1	6.5
131 009	Bearing bush	1	0.4
131 010	Retaining ring	2	-
131 011	Shaft	1	2.1
131 012	End flange	1	0.2
131 013	Screw	2	-
131 014	Cover	1	1.9
131 015	O-ring	1	-
131 016	Screw	4	-
131 017	Screw	2	-

Rocker arms bracket

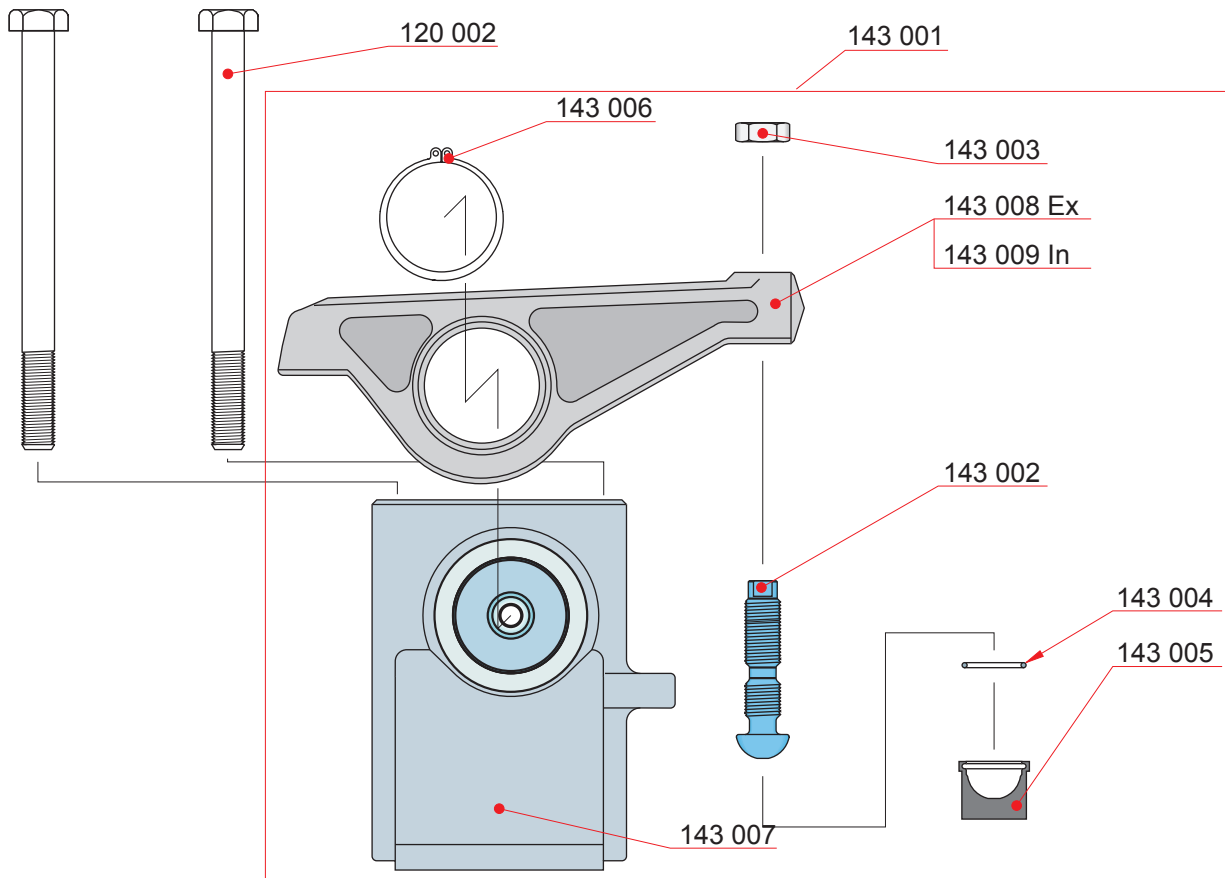


Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 002	Screw	2	-
143 001	Rocker arms with bracket	1	9.8
143 002	Adjusting screw	2	-
143 003	Nut	2	-
143 004	Spring	2	-
143 005	Ball socket seat	2	-
143 006	Retainer ring	2	-
143 007	Bearing bracket	1	5.6
143 008	Rocker arm for exhaust valve	1	1.9
143 009	Rocker arm for inlet valve	1	1.8

Edition: A

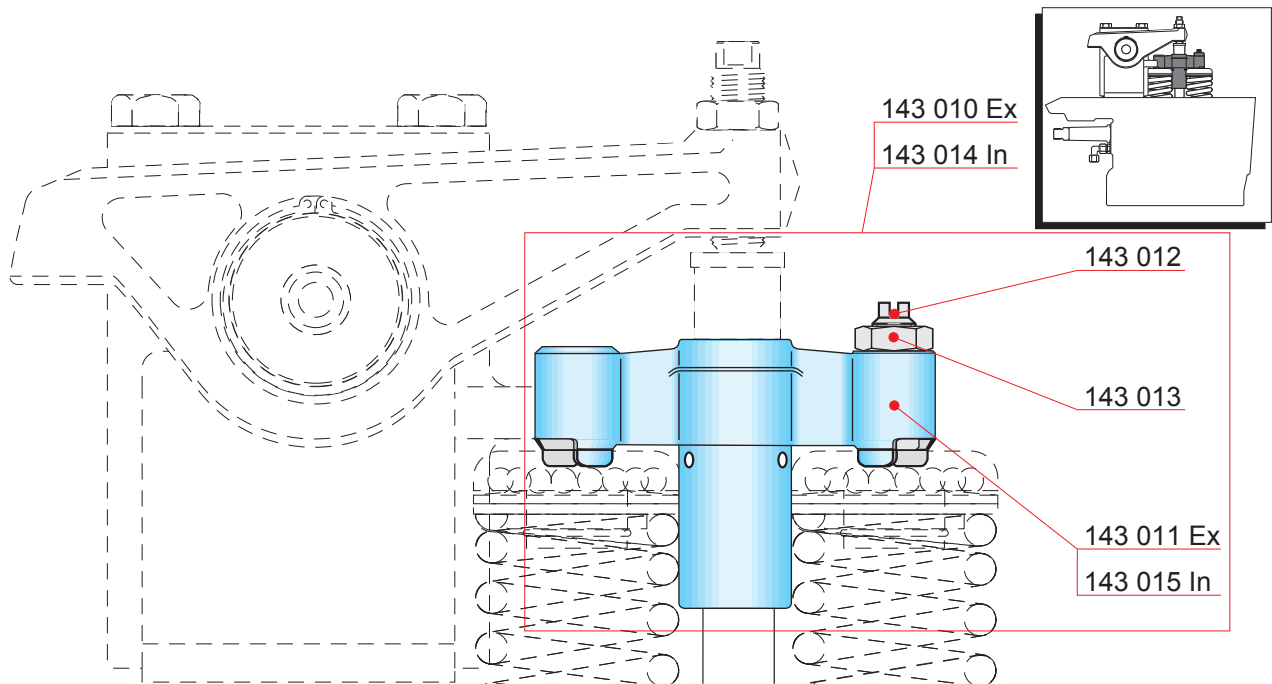
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Updated: 29.10.1993

Rocker arms bracket

Part No.	Description	Qty [Pcs]	Wt. [Kg]
120 002	Screw	2	-
143 001	Rocker arms with bracket	1	9.8
143 002	Adjusting screw	2	-
143 003	Nut	2	-
143 004	Spring	2	-
143 005	Ball socket seat	2	-
143 006	Retainer ring	2	-
143 007	Bearing bracket	1	5.6
143 008	Rocker arm for exhaust valve	1	1.9
143 009	Rocker arm for inlet valve	1	1.8

Rocker arms bracket

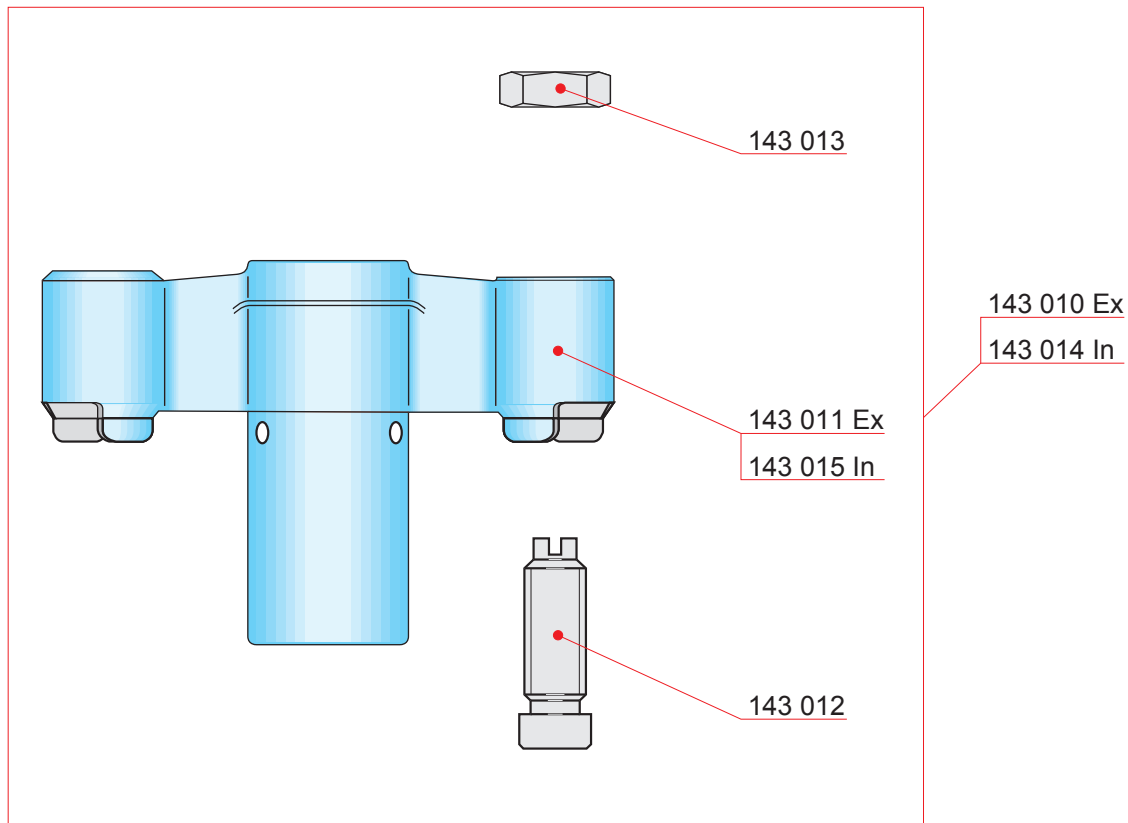


Part No.	Description	Qty [Pcs]	Wt. [Kg]
143 010	Yoke for exhaust valve, compl.	1	-
143 014	Yoke for inlet valve, compl.	1	-
143 011	Yoke for exhaust valve	1	0.8
143 012	Adjustable pin	1	0.3
143 013	Nut	1	-
143 015	Yoke for inlet valve	1	0.8

Edition: A

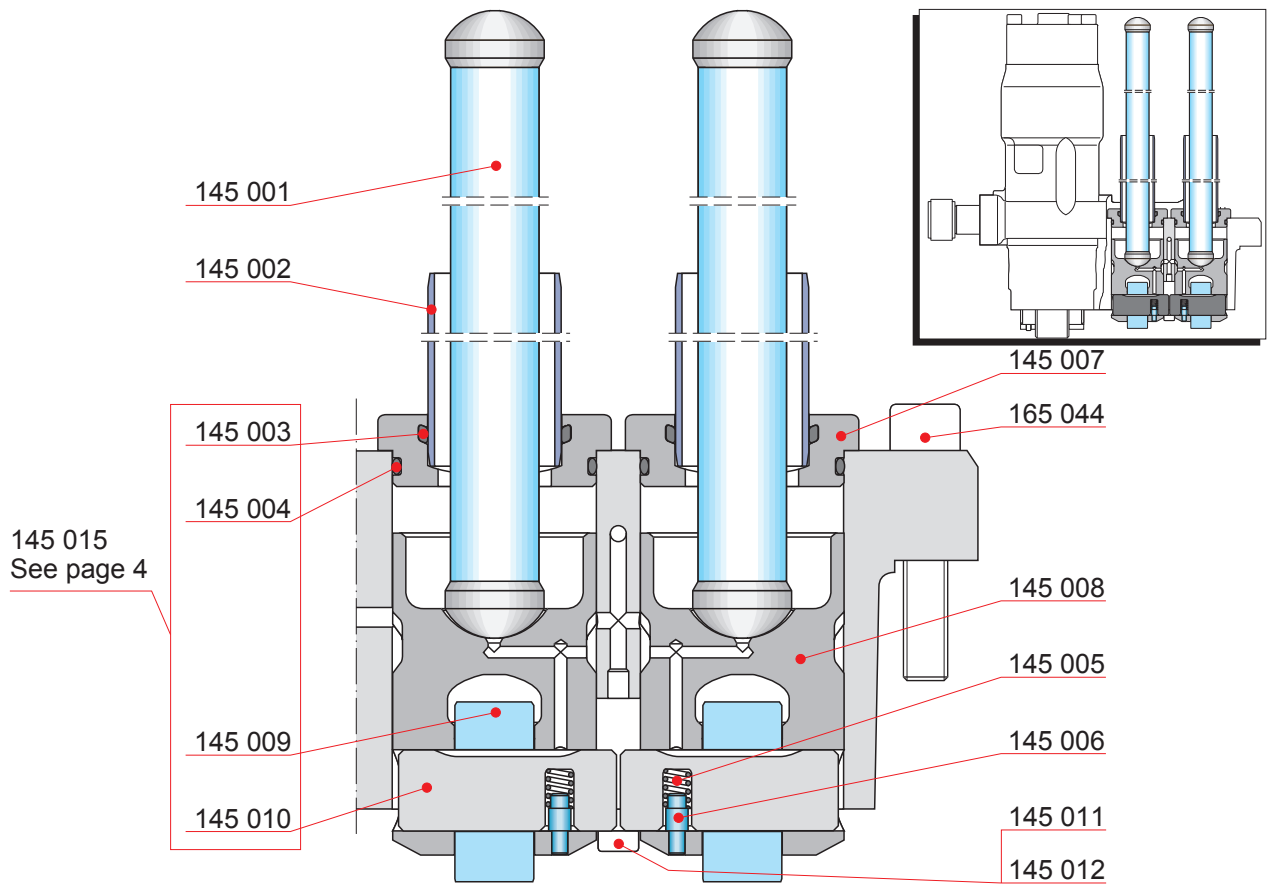
Page: 4(4)

Updated: 29.10.1993

Rocker arms bracket

Part No.	Description	Qty [Pcs]	Wt. [Kg]
143 010	Yoke for exhaust valve, compl.	1	-
143 011	Yoke for exhaust valve	1	0.8
143 012	Adjustable pin	1	0.3
143 013	Nut	1	-
143 014	Yoke for inlet valve, compl.	1	-
143 015	Yoke for inlet valve	1	0.8

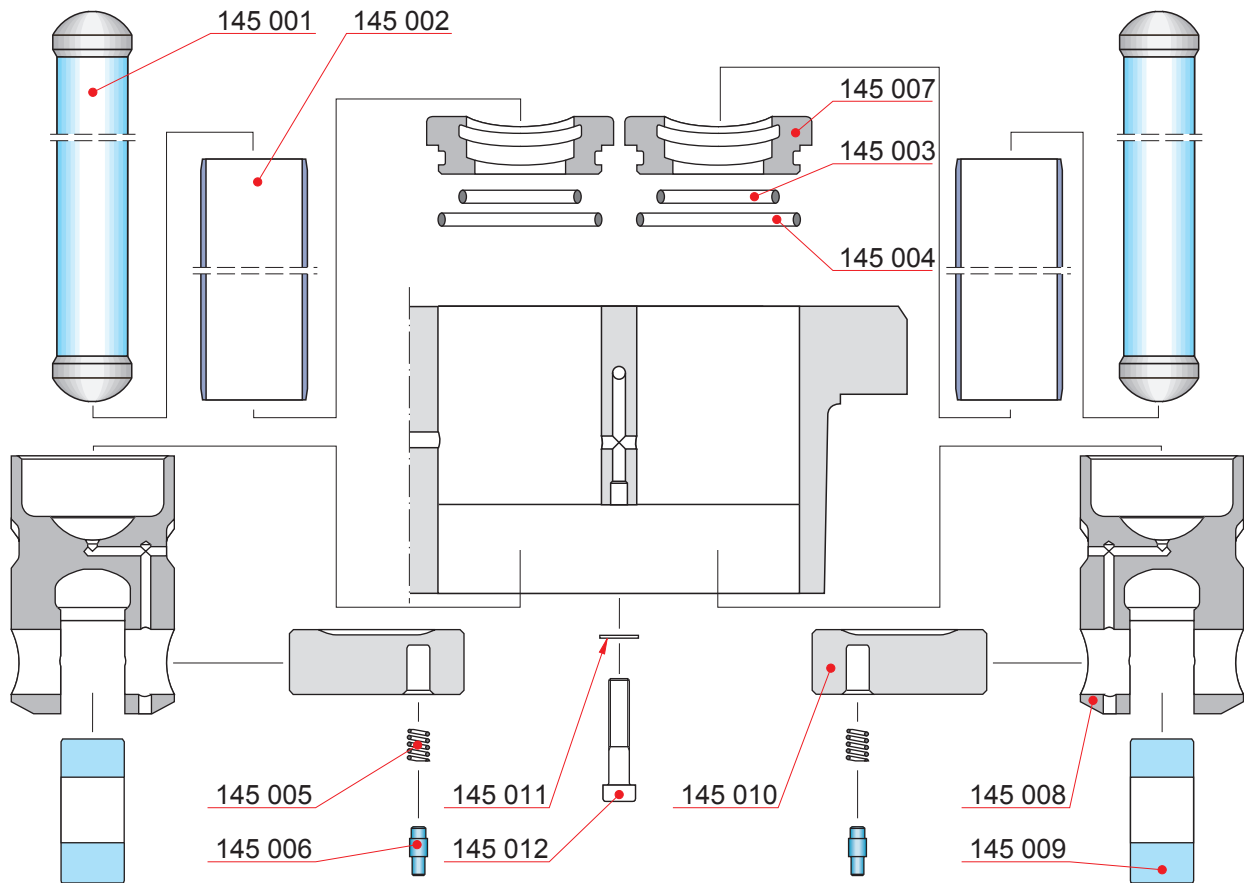
Valve tappet with guide block



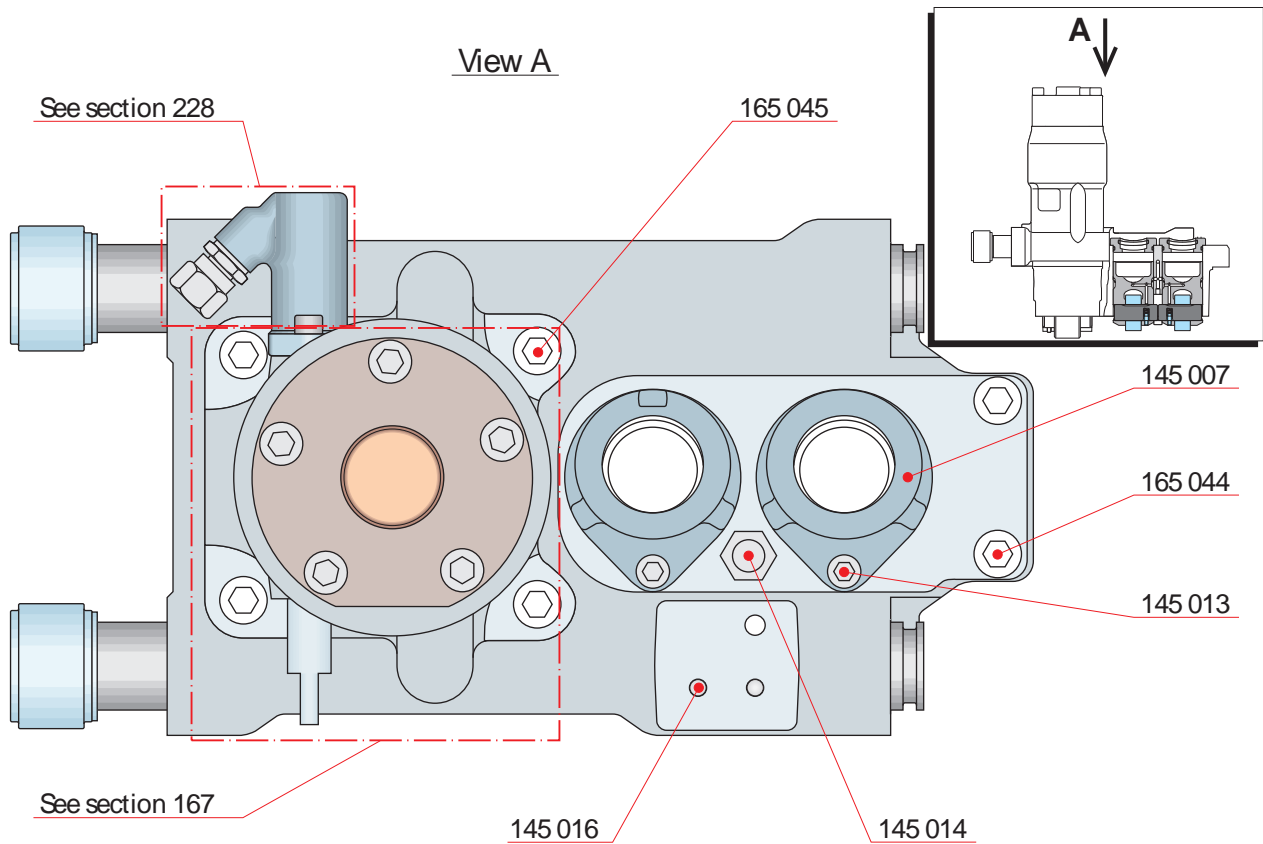
Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 001	Push rod	2	-
145 006	Pin	2	-
145 002	Protecting pipe	2	-
145 003	O-ring	2	-
145 004	O-ring	2	-
145 005	Spring	2	-
145 007	Cover	2	-
145 008	Valve tappet	2	0.6
145 009	Tappet roller	2	0.3
145 010	Roller pin	2	0.2
145 011	Securing plate	1	-
145 012	Screw	2	-
145 015	Valve tappet roller kit	1	0.4
165 044	Screw	2	-

Edition: B
Page: 2(4)
Updated: 07.06.1994

Valve tappet with guide block



Valve tappet with guide block

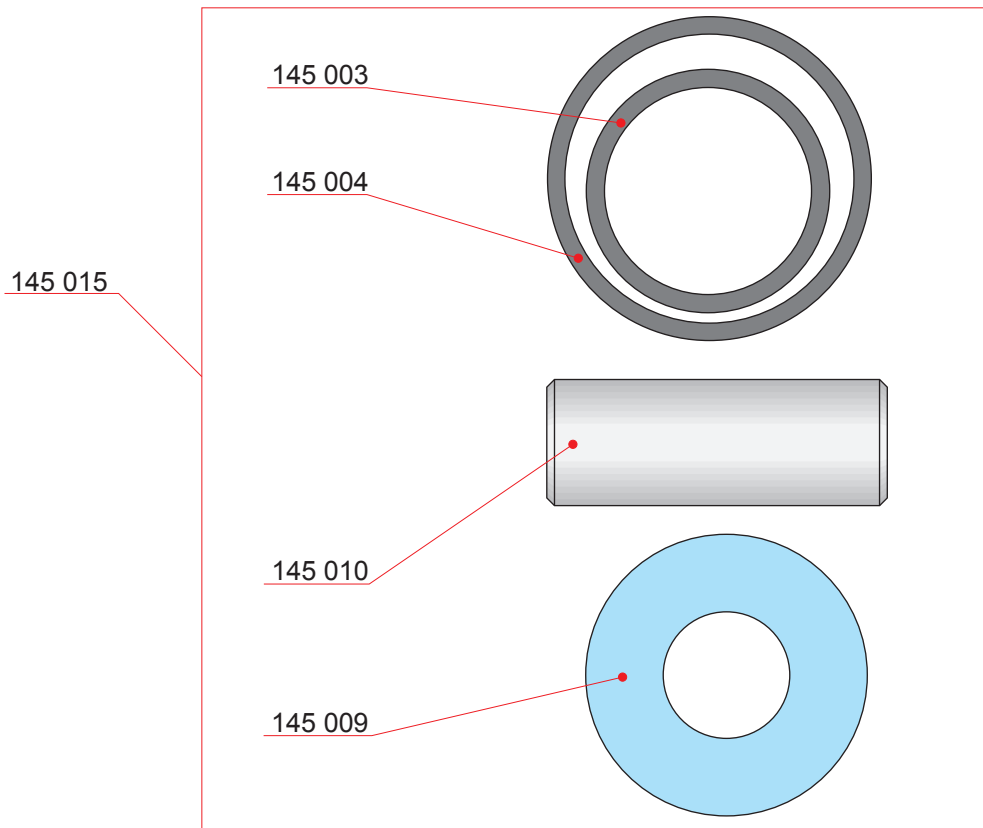


Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 007	Cover	2	-
145 016	Pin	2	-
145 013	Screw	2	0.3
145 014	Pipe union	1	-
165 044	Screw	2	-
165 045	Screw	4	-

Edition: B

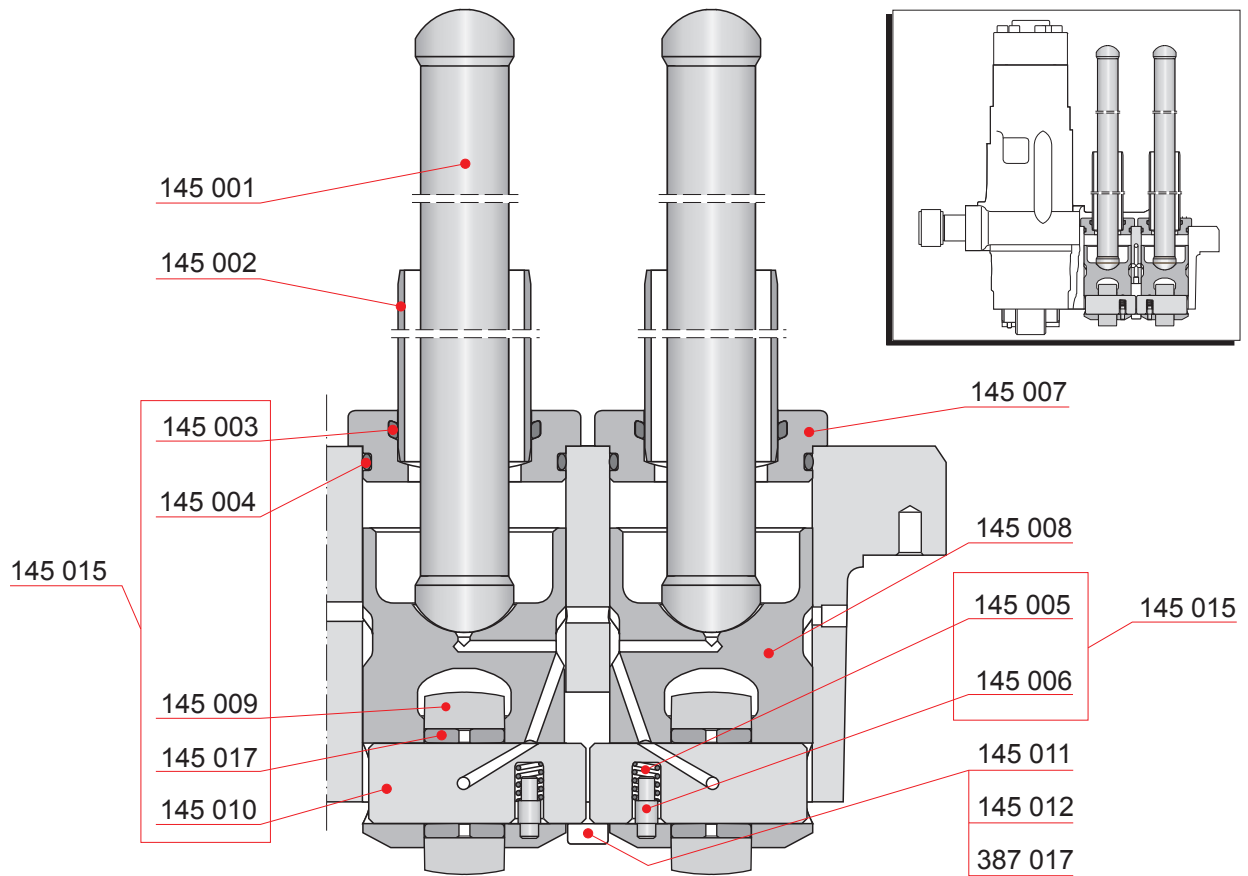
Page: 4(4)

Updated: 07.06.1994

Valve tappet with guide block

Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 015	Valve tappet roller kit	1	0.4
145 003	O-ring	1	-
145 004	O-ring	1	-
145 009	Tappet roller	1	0.3
145 010	Roller pin	1	0.2

Valve tappet with guide block



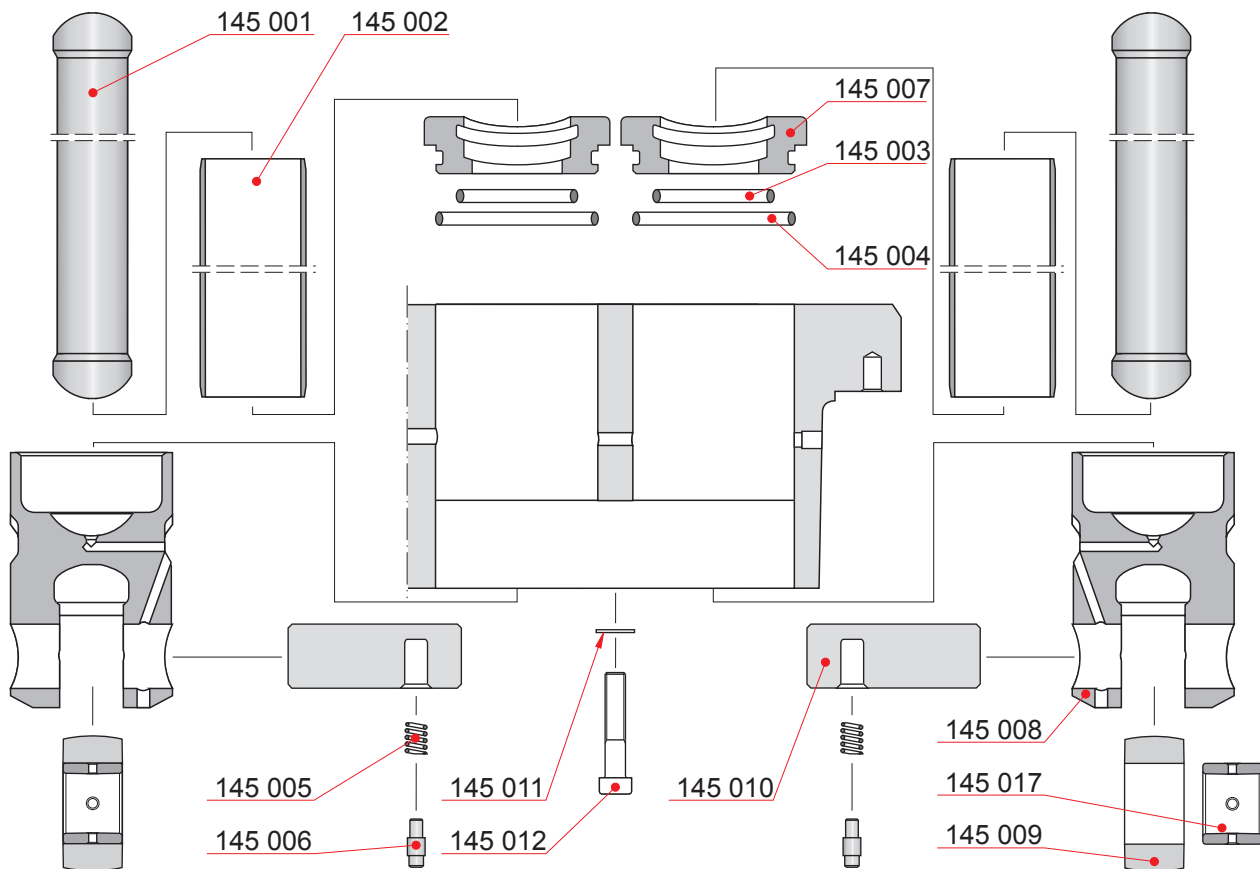
Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 001	Push rod	2	-
145 002	Protecting pipe	2	-
145 003	O-ring	2	-
145 004	O-ring	2	-
145 005	Spring	2	-
145 006	Pin	2	-
145 007	Cover	2	-
145 008	Valve tappet	2	0.6
145 009	Tappet roller (1)	2	-
145 010	Roller pin (1)	2	0.2
145 011	Securing plate	1	-
145 012	Screw	2	-
145 015	Valve tappet roller kit (2)	1	0.4
145 017	Bearing bush	2	-
387 017	Glue compound	1	-

NOTE! (1) Parts included in kit 145 015 and are not delivered separately!

NOTE! (2) See page 4.

Edition: D
Page: 2(4)
Updated: 19.10.2007

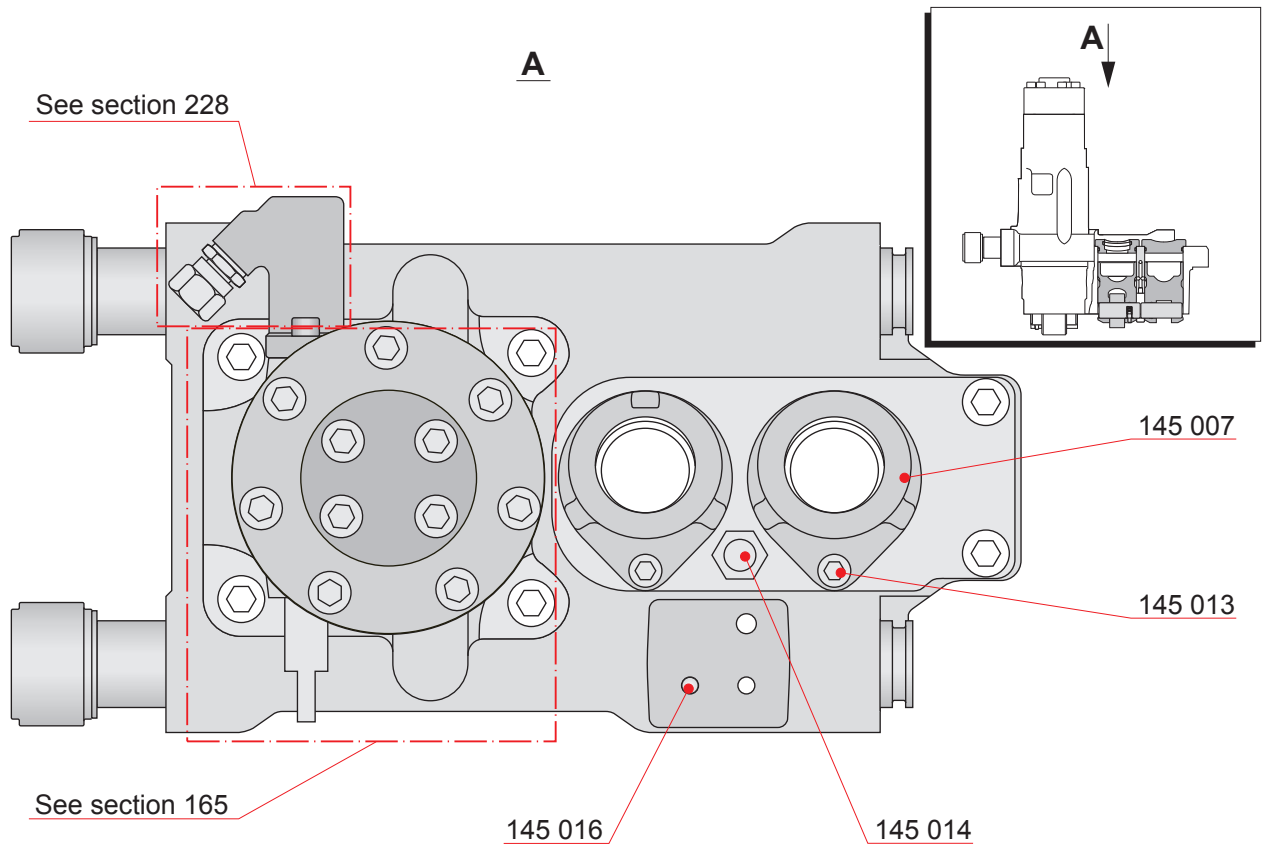
Valve tappet with guide block



Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 001	Push rod	2	-
145 002	Protecting pipe	2	-
145 003	O-ring	2	-
145 004	O-ring	2	-
145 005	Spring	2	-
145 006	Pin	2	-
145 007	Cover	2	-
145 008	Valve tappet	2	0.6
145 009	Tappet roller (1)	2	-
145 010	Roller pin (1)	2	0.2
145 011	Securing plate	1	-
145 012	Screw	2	-
145 017	Bearing bush	2	-

NOTE! (1) Parts included in kit 145 015 and are not delivered separately!

Valve tappet with guide block

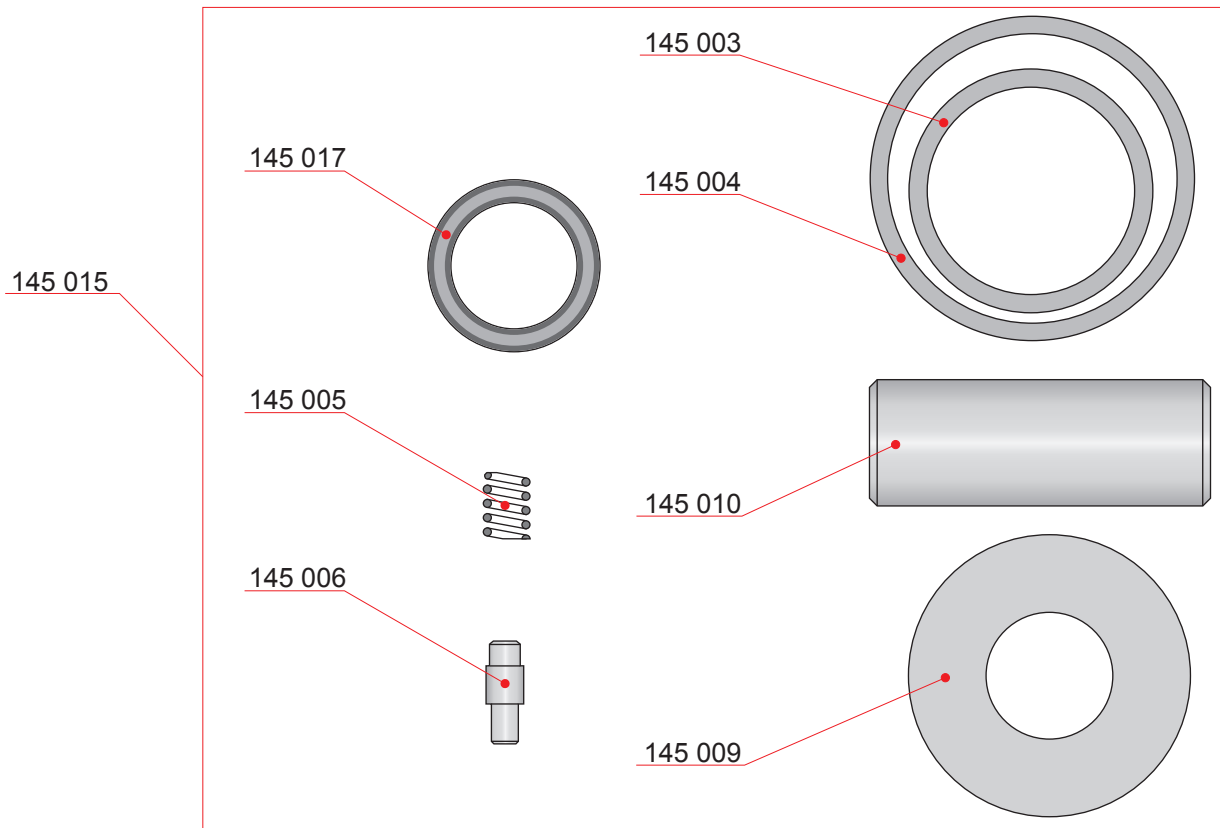


Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 007	Cover	2	-
145 013	Screw	2	0.3
145 014	Pipe union	1	-
145 016	Pin	2	-

Edition: D

Page: 4(4)

Updated: 19.10.2007

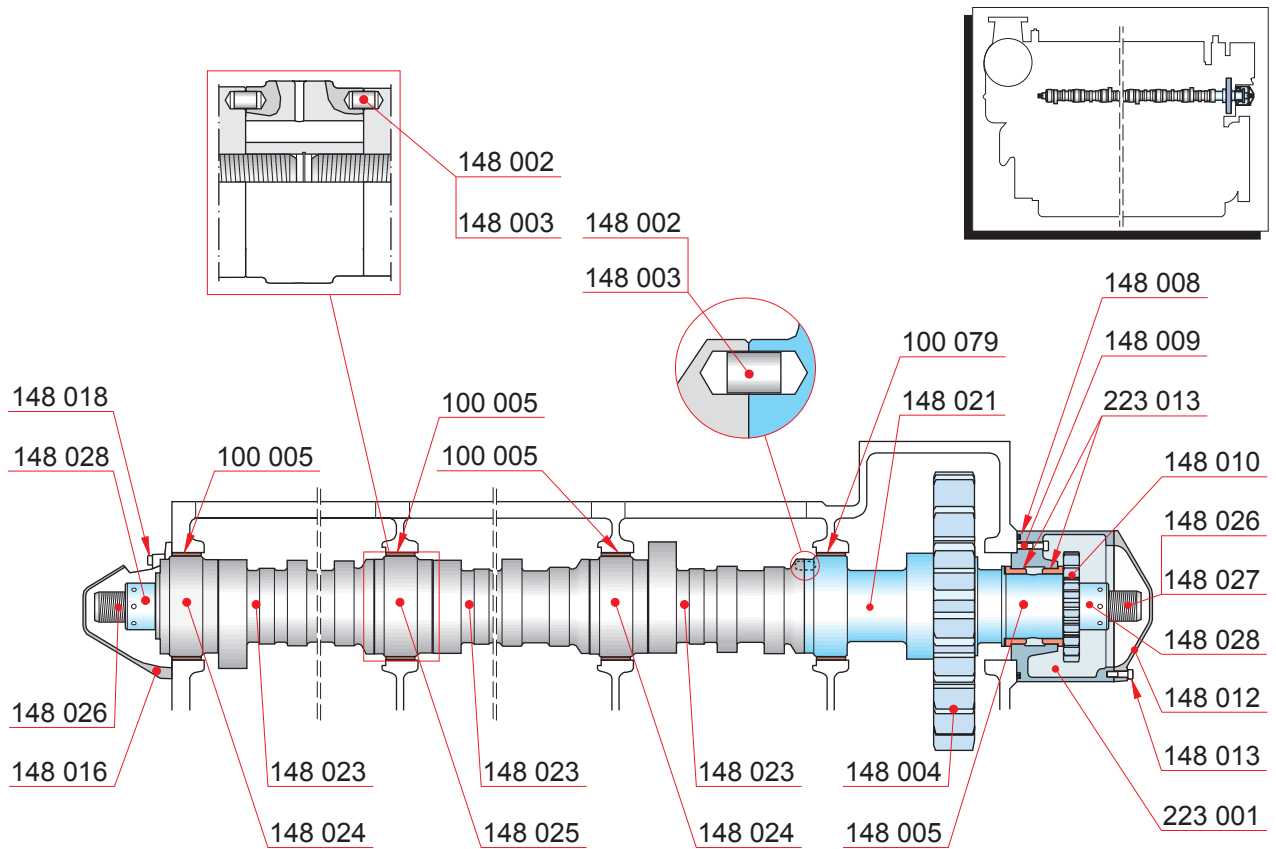
Valve tappet with guide block

Part No.	Description	Qty [Pcs]	Wt. [Kg]
145 015	Valve tappet roller kit (2)	1	0.4
145 003	O-ring	1	-
145 004	O-ring	1	-
145 005	Spring	1	-
145 006	Pin	1	-
145 009	Tappet roller (1)	1	-
145 010	Roller pin (1)	1	0.2
145 017	Bearing bush	1	-

NOTE! (1) Parts included in kit 145 015 and are not delivered separately!

NOTE! (2) Two kits required per cylinder

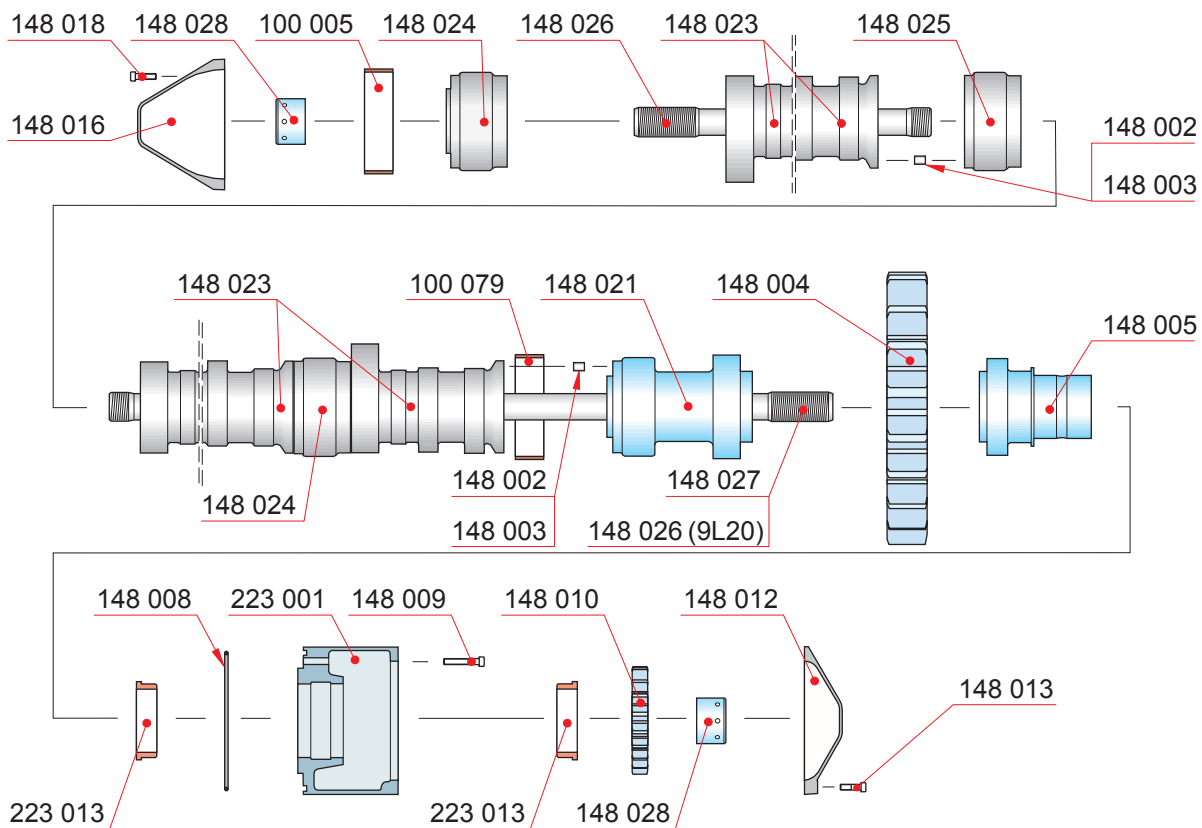
Camshaft



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 005	Camshaft bearing bush	*	0.6	NOTE!	* See page 3.		
100 079	Camshaft bearing bush	1	0.7				
148 002	Guide pin	*	-				
148 003	Snap ring	*	-				
148 004	Drive gear	1	25.4				
148 005	End piece	1	8.0				
148 008	O-ring	1	-				
148 009	Screw	8	-				
148 010	Gear	1	2.3				
148 012	Cover	1	0.7				
148 013	Screw	6	-				
148 016	Cover	1	1.2				
148 018	Screw	4	-				
148 021	Extension piece	1	16.0				
148 023	Camshaft piece	*	14.5				
148 024	Bearing piece	*	8.7				
148 025	Bearing piece	1	8.7				
148 026	Screw	*	14.4				
148 027	Screw	*	-				
148 028	Round nut	2	0.7				
223 001	Governor drive (1)	1	19.1				
223 013	Thrust bearing bush	2	0.5				

Edition: D
Page: 2(3)
Updated: 07.11.2003

Camshaft



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
100 005	Camshaft bearing bush	*	0.6	NOTE!	(1) see section 223.		
100 079	Camshaft bearing bush	1	0.7				
148 002	Guide pin	*	-				
148 003	Snap ring	*	-				
148 004	Drive gear	1	25.4				
148 005	End piece	1	8.0				
148 008	O-ring	1	-				
148 009	Screw	8	-				
148 010	Gear	1	2.3				
148 012	Cover	1	0.7				
148 013	Screw	6	-				
148 016	Cover	1	1.2				
148 018	Screw	4	-				
148 021	Extension piece	1	16.0				
148 023	Camshaft piece	*	14.5				
148 024	Bearing piece	*	8.7				
148 025	Bearing piece	1	8.7				
148 026	Screw	*	14.4				
148 027	Screw	*	-				
148 028	Round nut	2	0.7				
223 001	Governor drive (1)	1	19.1				
223 013	Thrust bearing bush	2	0.5				

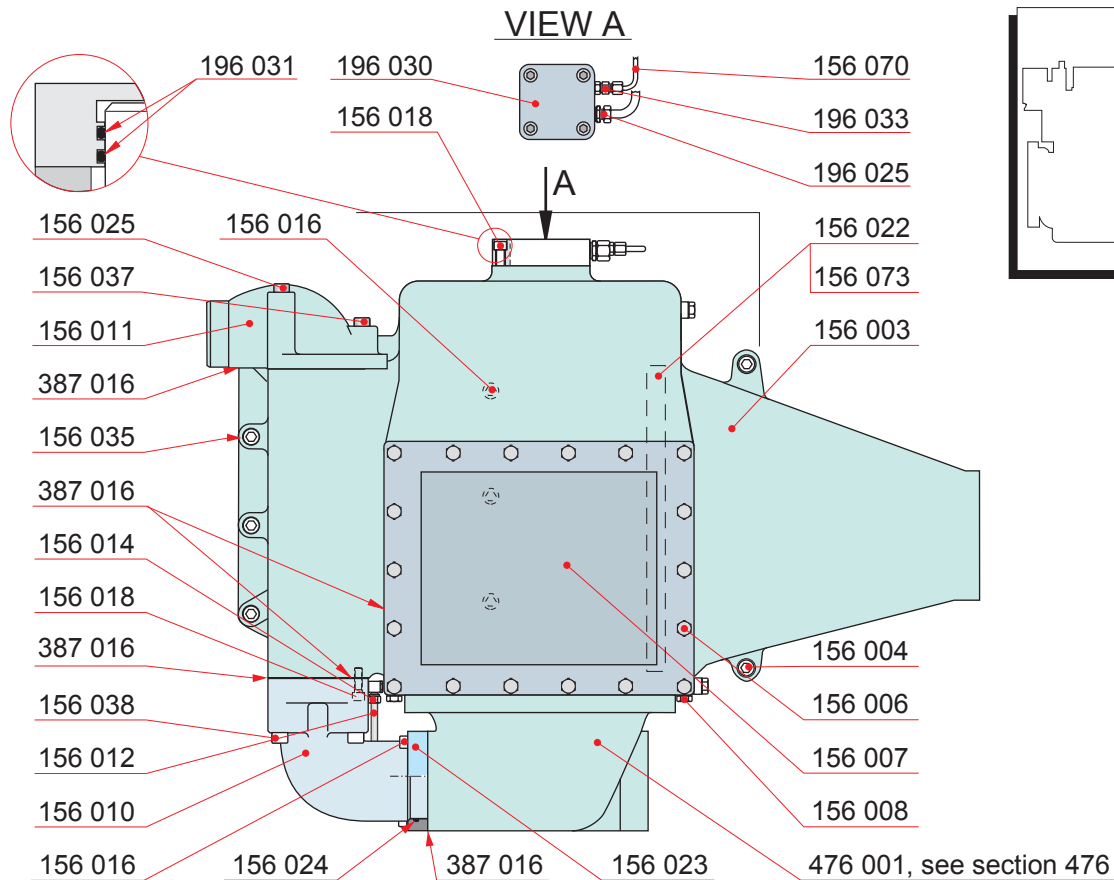
Camshaft

Quantity according to number of cylinders

Part No	Pieces				
	4L20	5L20	6L20	8L20	9L20
100 005	4	5	6	8	9
148 002	8	10	12	16	18
148 003	8	10	12	16	18
148 023	4	5	6	8	9
148 024	3	4	5	7	8
148 026	1	1	1	1	2
148 027	1	1	1	1	-

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Charge air cooler assembly

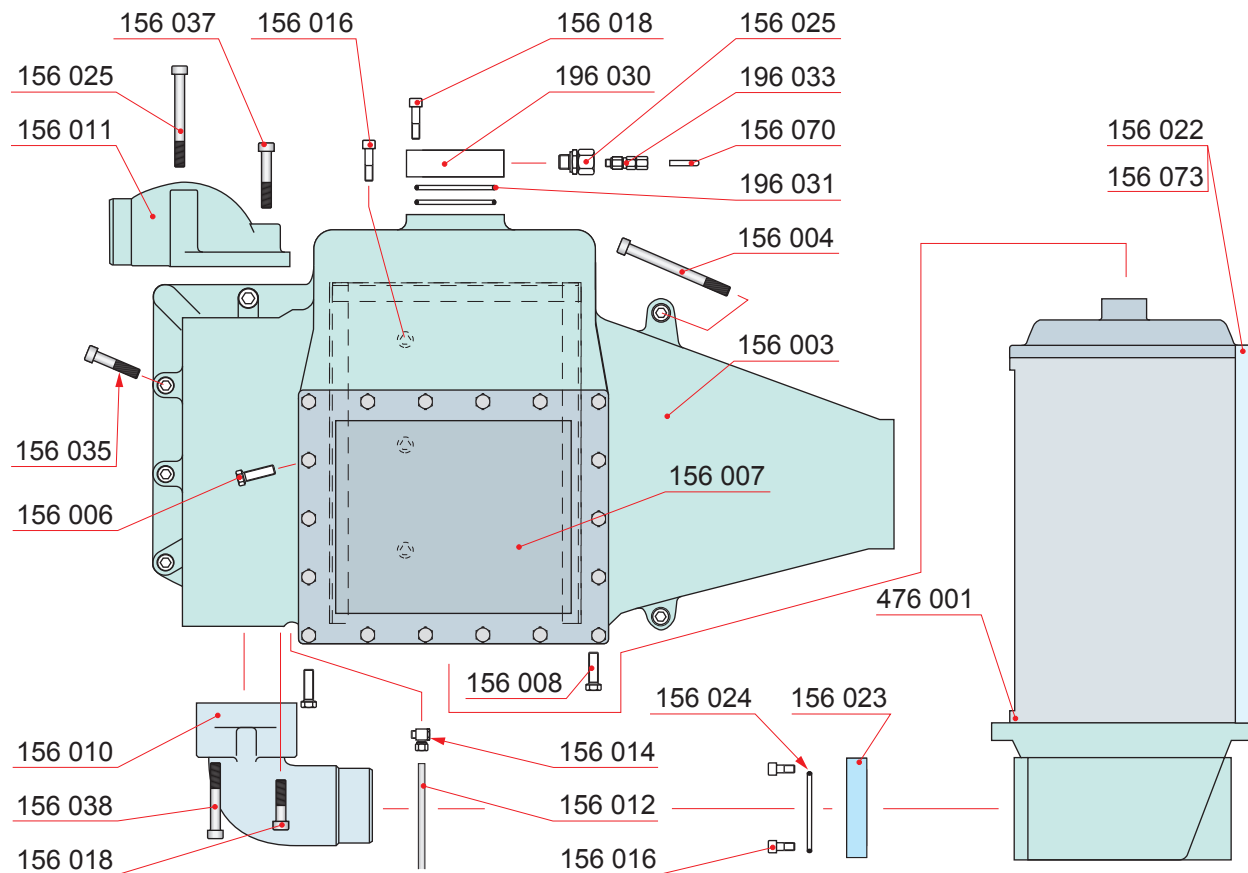


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 003	Cooler housing	1	-	196 033	Non-return valve	1	-
156 004	Screw	2	-	387 016	Glue compound	1	-
156 006	Screw	17	-	476 001	Charge air cooler	1	-
156 007	Cover	1	-	NOTE!	(1) L= 60 mm		
156 008	Screw	13	-				
156 010	Bend	1	-				
156 011	Bend	1	-				
156 012	Pipe (1)		-				
156 014	Pipe union	1	-				
156 016	Screw	10	-				
156 018	Screw	5	-				
156 022	Sealing plate	1	-				
156 023	Flange	1	-				
156 024	O-ring	1	-				
156 025	Screw	2	-				
156 035	Screw	6	-				
156 037	Screw	1	-				
156 038	Screw	3	-				
196 025	Pipe union	1	-				
196 030	Flange	1	-				
196 031	O-ring	2	-				

Edition: C

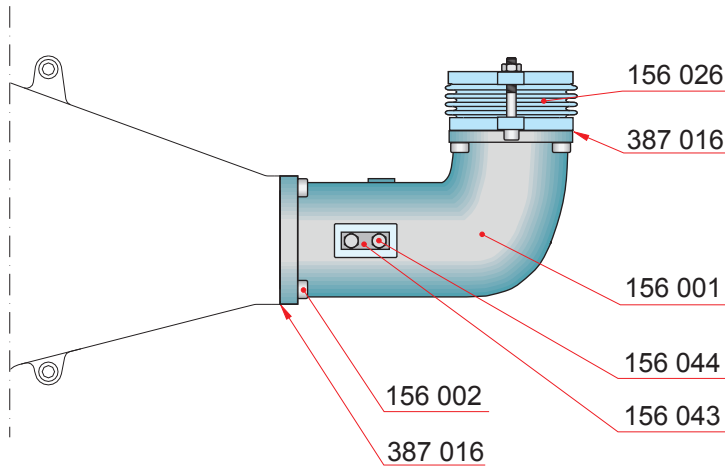
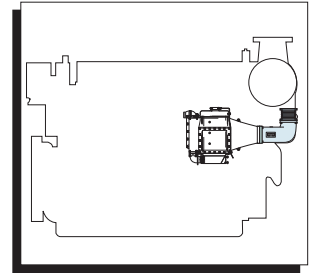
Page: 2(2)

Updated: 23.10.2000

Charge air cooler assembly

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 003	Cooler housing	1	-	476 001	Charge air cooler	1	-
156 004	Screw	2	-				
156 006	Screw	17	-				
156 007	Cover	1	-				
156 008	Screw	13	-				
156 010	Bend	1	-				
156 011	Bend	1	-				
156 012	Pipe		-				
156 014	Pipe union	1	-				
156 016	Screw	10	-				
156 018	Screw	5	-				
156 022	Sealing plate	1	-				
156 023	Flange	1	-				
156 024	O-ring	1	-				
156 025	Screw	2	-				
156 035	Screw	6	-				
156 037	Screw	1	-				
156 038	Screw	3	-				
156 070	Pipe	1	-				
156 073	Rivet	4	-				
196 030	Flange	1	-				
196 031	O-ring	2	-				
196 033	Non-return valve	1	-				

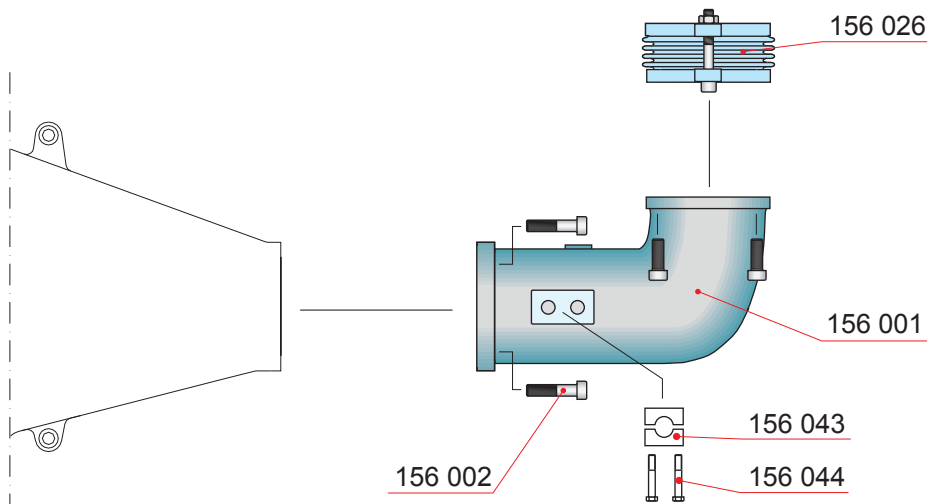
Charge air pipe



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 001	Charge air pipe	1	-
156 002	Screw	4	-
156 044	Screw	2	-
156 026	Bellows	1	-
156 043	Pipe clamp	1	-
387 016	Glue compound	1	-

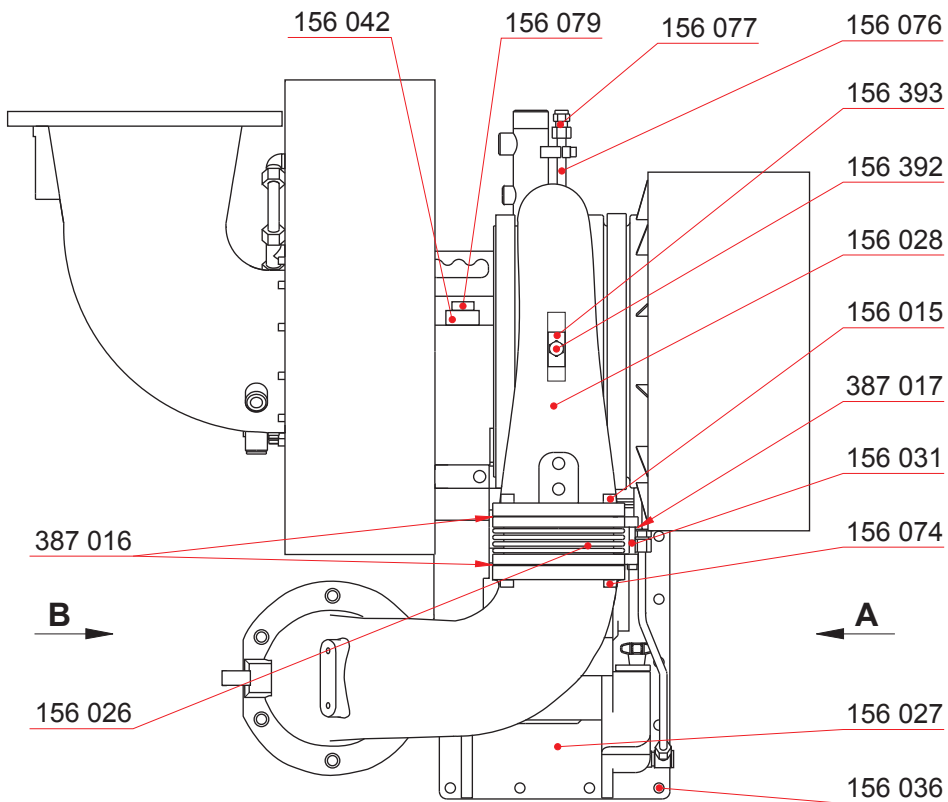
Edition: A
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 Updated: 01.08.1997

Charge air pipe



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 001	Charge air pipe	1	-
156 002	Screw	4	-
156 026	Bellows	1	-
156 043	Pipe clamp	1	-
156 044	Screw	2	-

Turbocharger bracket assembly

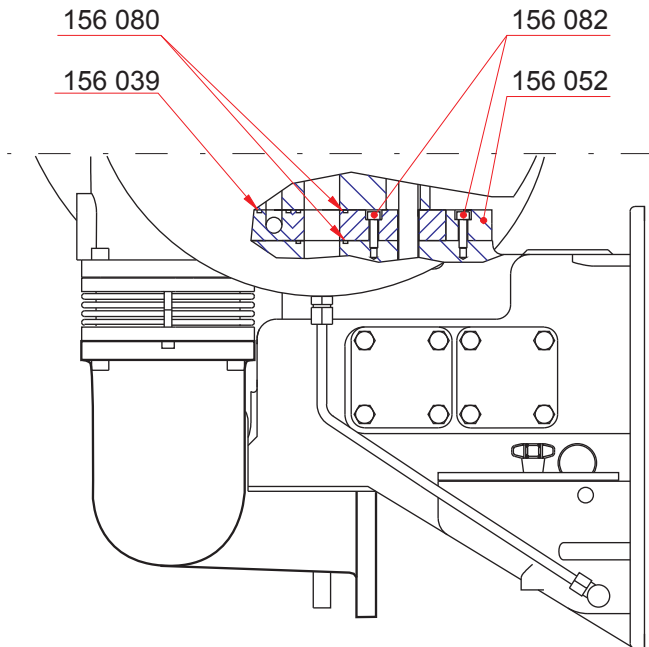
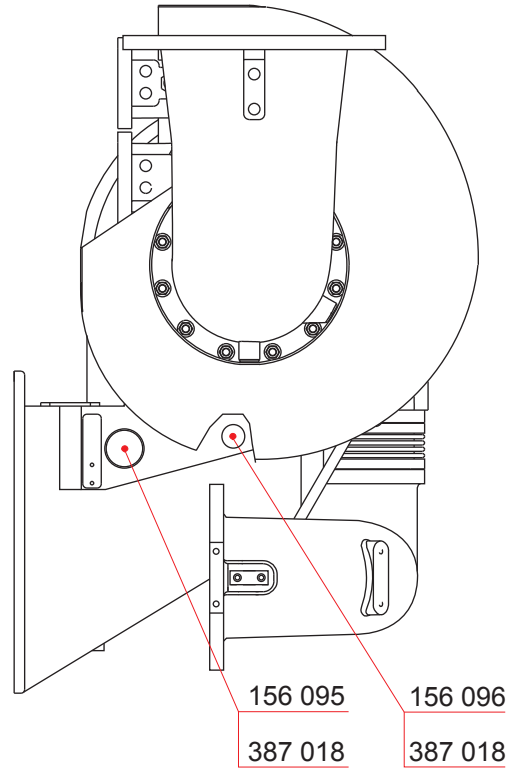


Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 001	Charge air pipe	1	-
156 076	Pipe	1	0.3
156 015	Screw	8	-
156 026	Bellows	1	3.2
156 027	Bracket	1	37.0
156 028	Turbocharger	1	-
156 031	Screw	1	-
156 036	Screw	16	-
156 042	Bracket	2	-
156 074	Screw	4	-
156 077	Pipe union	1	-
156 079	Screw	2	0.7
156 392	Screw	1	-
156 393	Cable clamp	1	-
387 016	Glue compound	1	-
387 017	Threadlocker	1	-

Edition: D

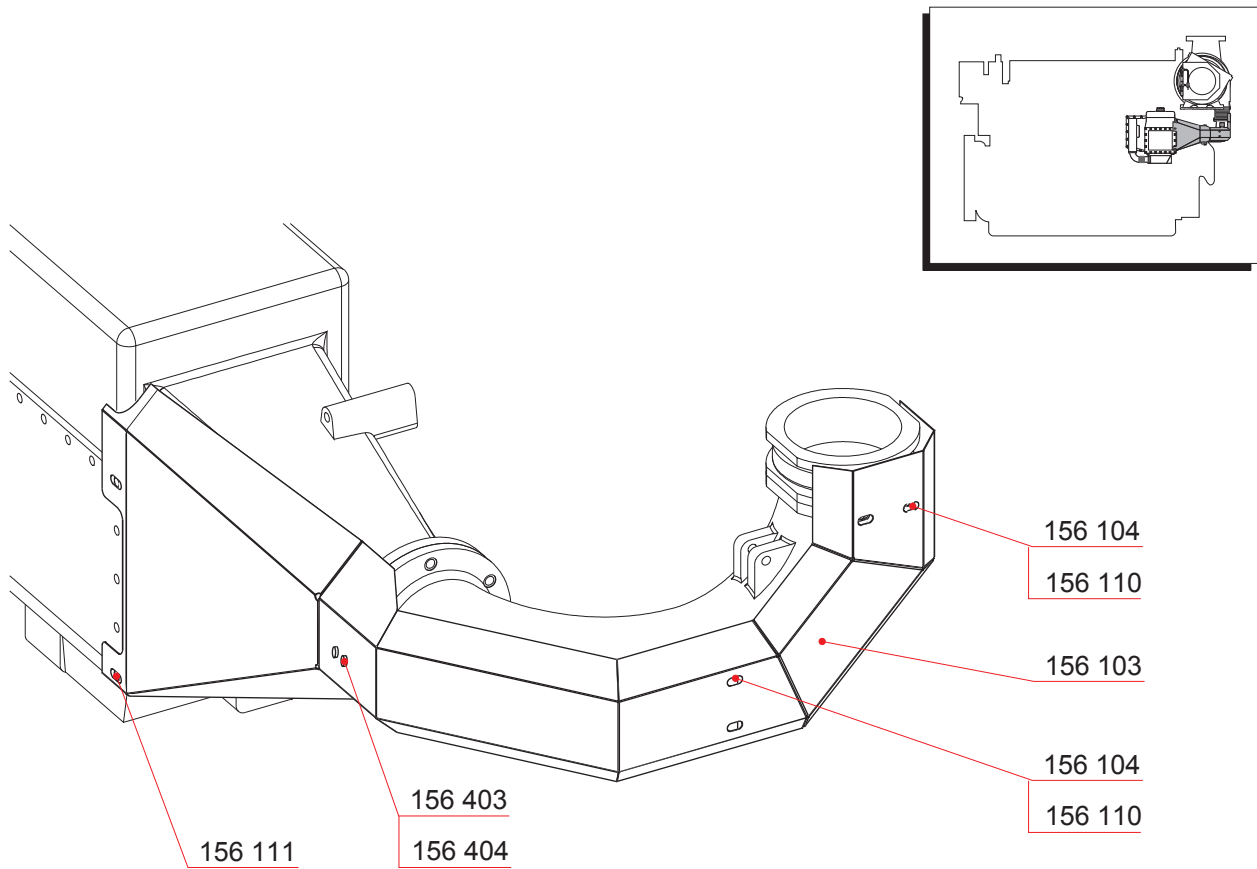
Page: 2(2)

Updated: 12.02.2001

Turbocharger bracket assembly**VIEW A****VIEW B**

Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 039	O-ring	1	-
156 052	Platform	1	5.9
156 080	O-ring	2	-
156 082	Screw	4	-
156 095	Sealing push-in cap	1	-
156 096	Sealing push-in cap	1	-
387 018	Retaining compound	1	-

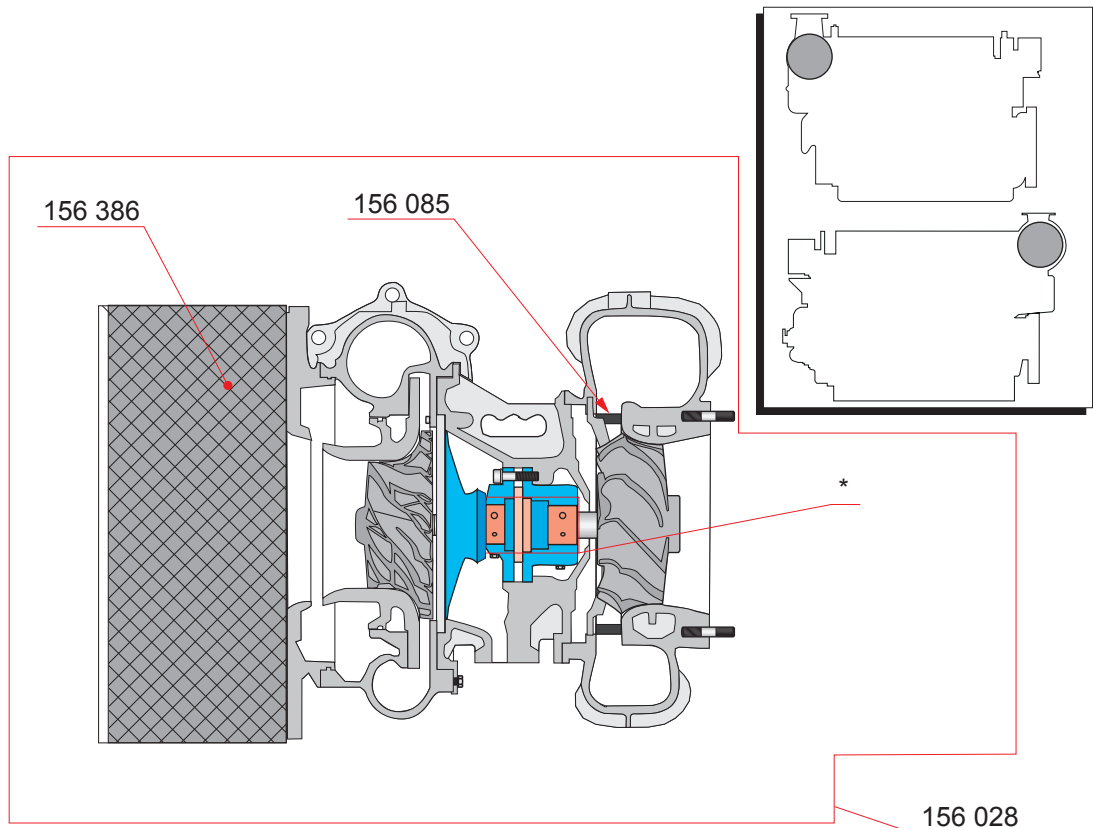
Heat shield



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 103	Shield plate	1	-
156 104	Screw	4	-
156 403	Screw	2	-
156 110	Washer	4	-
156 111	Washer	2	-
156 404	Washer	2	-

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Turbocharger

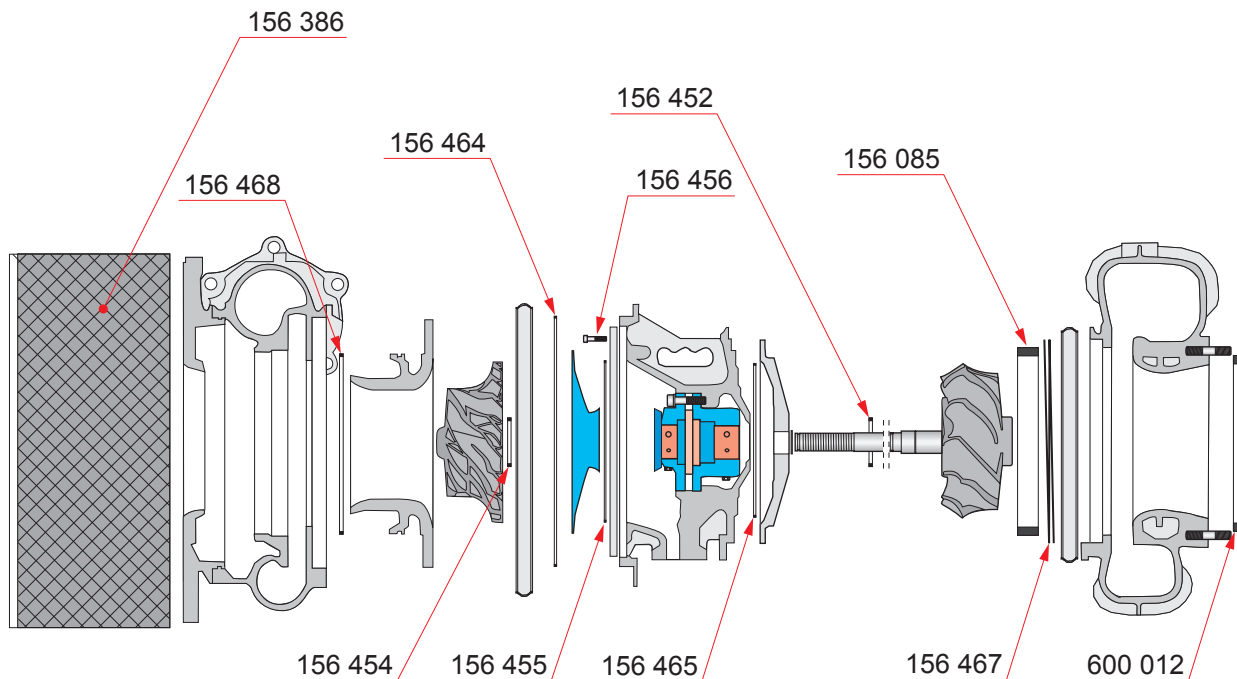


Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 028	Turbocharger	1	217
156 085	Nozzle ring	1	3.2
156 386	Filter	1	0.1

NOTE! * See page 3.
 NOTE! When ordering spare parts, turbocharger serial number and specification must be given.

Edition: J
Page: 2(4)
Updated: 14.05.2018

Turbocharger



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 085	Nozzle ring	1	3.2
156 386	Filter	1	0.1
156 452	Piston ring (2)	1	-
156 454	Piston ring (2)	1	-
156 455	Packing ring (2)	1	-
156 456	Screw (1) (2)	2	-
156 464	Packing ring (1)	1	-
156 465	Gasket (1)	1	-
156 467	Lamellar labyrinth seal (1)	1	-
156 468	Packing ring (1)	1	-
600 012	Sealing ring (1) **	1	-

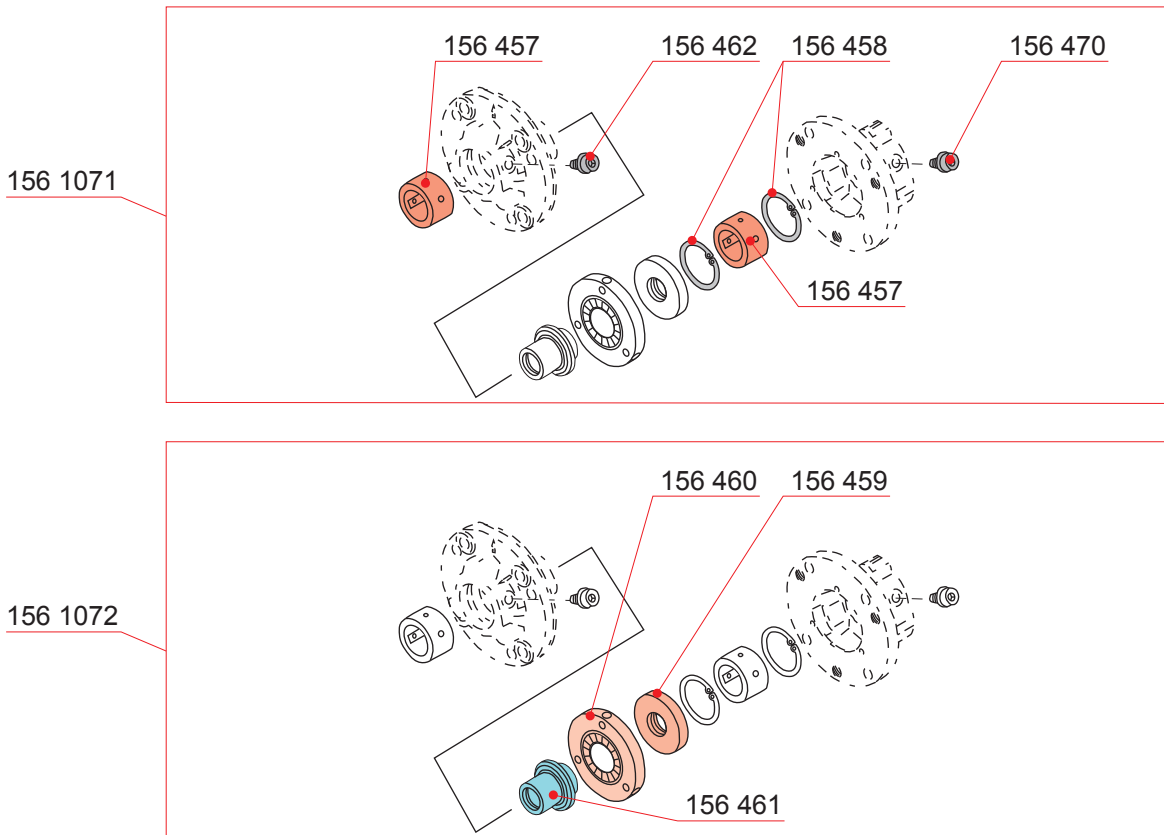
NOTE! (1) Spare part set 156 112 includes items marked (1).

NOTE! (2) Spare part set 156 113 includes items marked (2).

NOTE! ** See section 600-xx

NOTE! Only Spare part sets (156 112, 156 113, 156 1071 and 156 1072), Nozzle (156 085), Cartridge (156 180) and Filter cartridge (156 386) can be ordered.

Turbocharger



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 1071	Spare part kit	1	1.2
156 457	Bearing (3)	2	-
156 458	Locking ring (3)	2	-
156 462	Screw (3)	3	-
156 470	Screw (3)	3	-
156 1072	Spare part kit	1	0.8
156 459	Thrust ring (4)	1	-
156 460	Thrust bearing (4)	1	-
156 461	Auxiliary bearing (4)	1	-

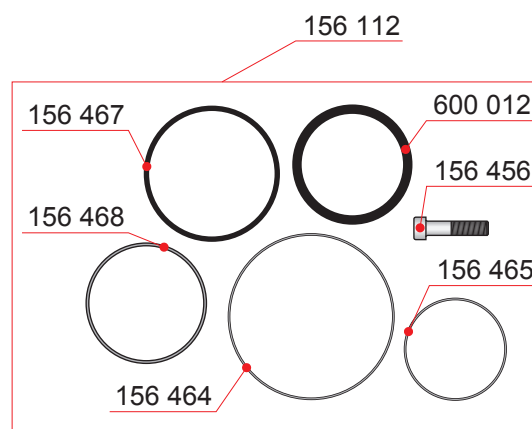
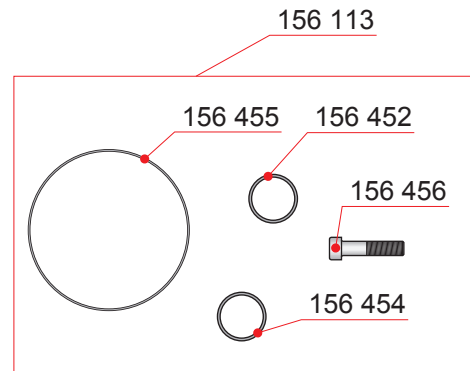
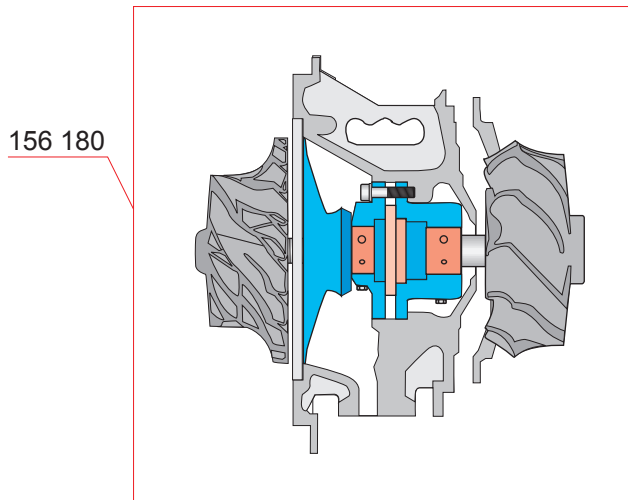
NOTE! (3) Spare part set 156 1071 includes items marked (3).

NOTE! (4) Spare part set 156 1072 includes items marked (4).

NOTE! Only Spare part sets (156 112, 156 113, 156 1071 and 156 1072), Nozzle (156 085), Cartridge (156 180) and Filter cartridge (156 386) can be ordered.

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Updated: 14.05.2018

Turbocharger



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 112	O-ring kit	1	0.4
156 456	Screw (1)	1	-
156 464	Packing ring (1)	1	-
156 465	Gasket (1)	1	-
156 467	Lamellar labyrinth seal (1)	1	-
156 468	Packing ring (1)	1	-
600 012	Sealing ring (1) **	1	-
156 113	V-clamp kit	1	0.2
156 452	Piston ring (2)	1	-
156 454	Piston ring (2)	1	-
156 455	Packing ring (2)	1	-
156 456	Screw (2)	2	-
156 180	Cartridge	1	-

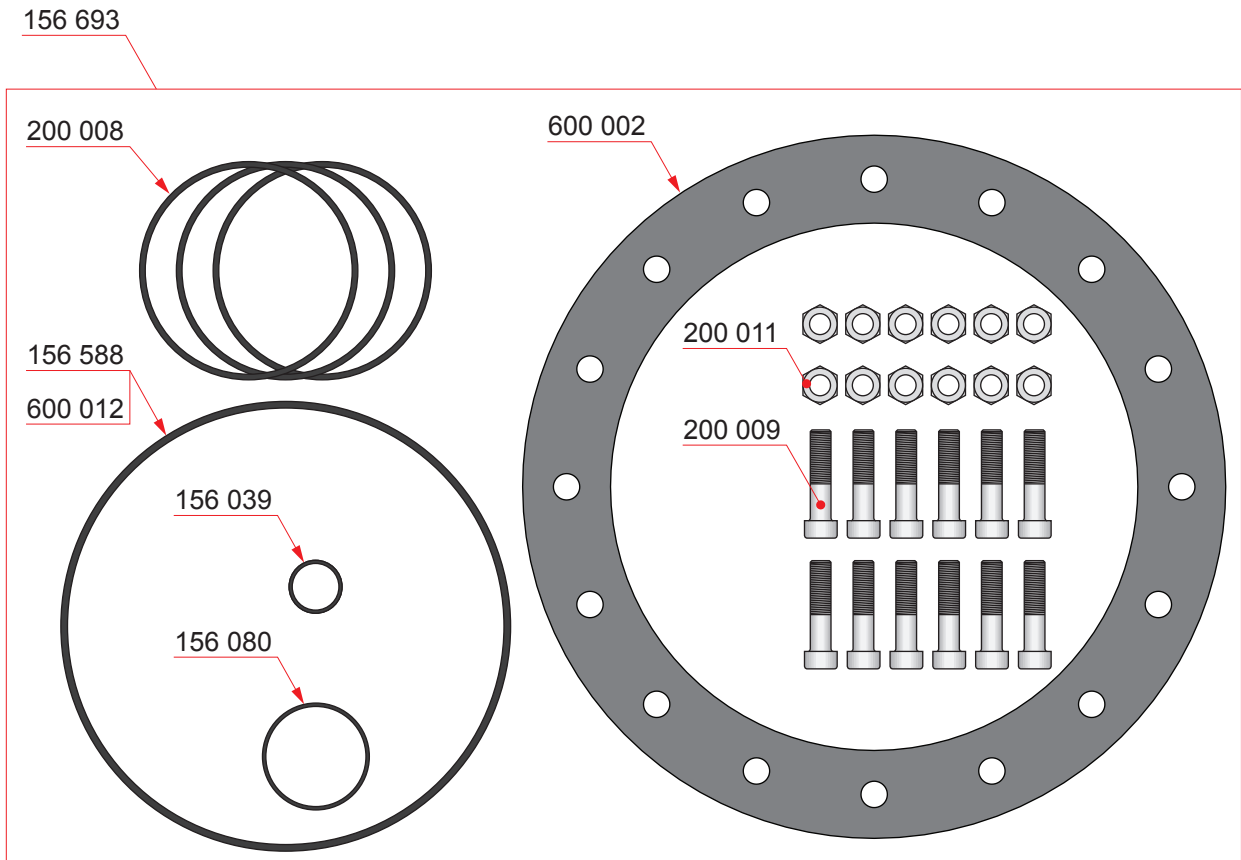
NOTE! (1) Spare part set 156 112 includes items marked (1).

NOTE! (2) Spare part set 156 113 includes items marked (2).

NOTE! ** See section 600-xx

NOTE! Only Spare part sets (156 112, 156 113, 156 1071 and 156 1072), Nozzle (156 085), Cartridge (156 180) and Filter cartridge (156 386) can be ordered.

Turbocharger manifold sealing kit



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 693	Turbocharger manifold sealing kit	1	1.2
156 039	O-ring	1	-
156 080	O-ring	1	-
156 588	Sealing ring	1	-
200 008	Sealing ring	3	-
200 009	Screw	12	-
200 011	Nut	12	-
600 002	Gasket (1)	1	0.2
600 012	Sealing ring	1	-
387 019	Gasketing (2)	1	-

NOTE!

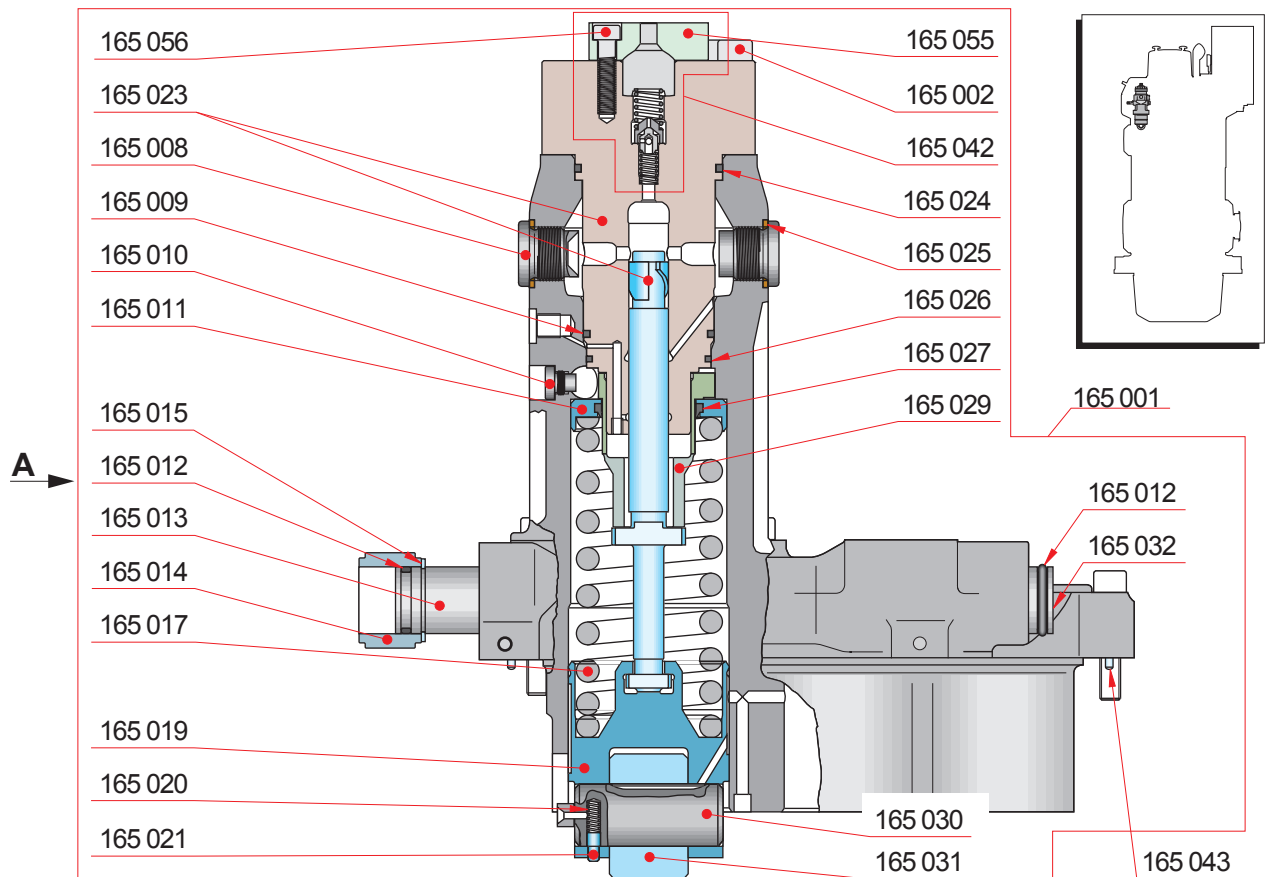
(1) Ø = 375mm

NOTE!

(2) Not included in the sealing kit.
Glue compound needed when performing maintenance to the turbocharger manifold.

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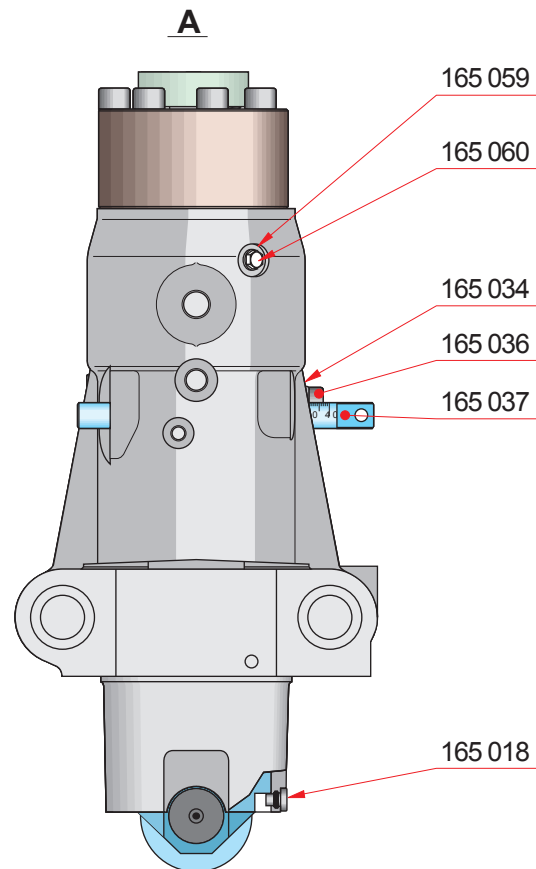
Injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 001	Injection pump	1	-	165 043	Pin	2	-
165 002	Screw	7	-				
165 008	Erosion plug	2	-	NOTE!	(1) See page 3.		
165 009	Sealing ring (2)	1	-	NOTE!	(2) Parts included in the set and not delivered separately!		
165 010	Plug	1	-				
165 011	Spring plate	1	0.1				
165 012	O-ring	4	0.1				
165 013	Sleeve	2	0.2				
165 014	Sleeve	2	0.2				
165 015	Retainer ring	2	-				
165 017	Spring	1	0.7				
165 019	Tappet	1	0.8				
165 020	Spring	1	-				
165 021	Pin	1	-				
165 023	Pump element (2)	1	-				
165 024	Sealing ring (2)	1	-				
165 025	Sealing ring	1	-				
165 026	O-ring (2)	1	-				
165 027	Scraper ring	1	-				
165 029	Control sleeve	1	0.2				
165 030	Tappet pin	1	0.3				
165 031	Tappet roller	1	0.5				
165 032	Sleeve	2	-				
165 042	Two way pressure valve, compl. (1)	1	0.4				
165 055	Flange	1	0.3				
165 056	Screw	4	-				

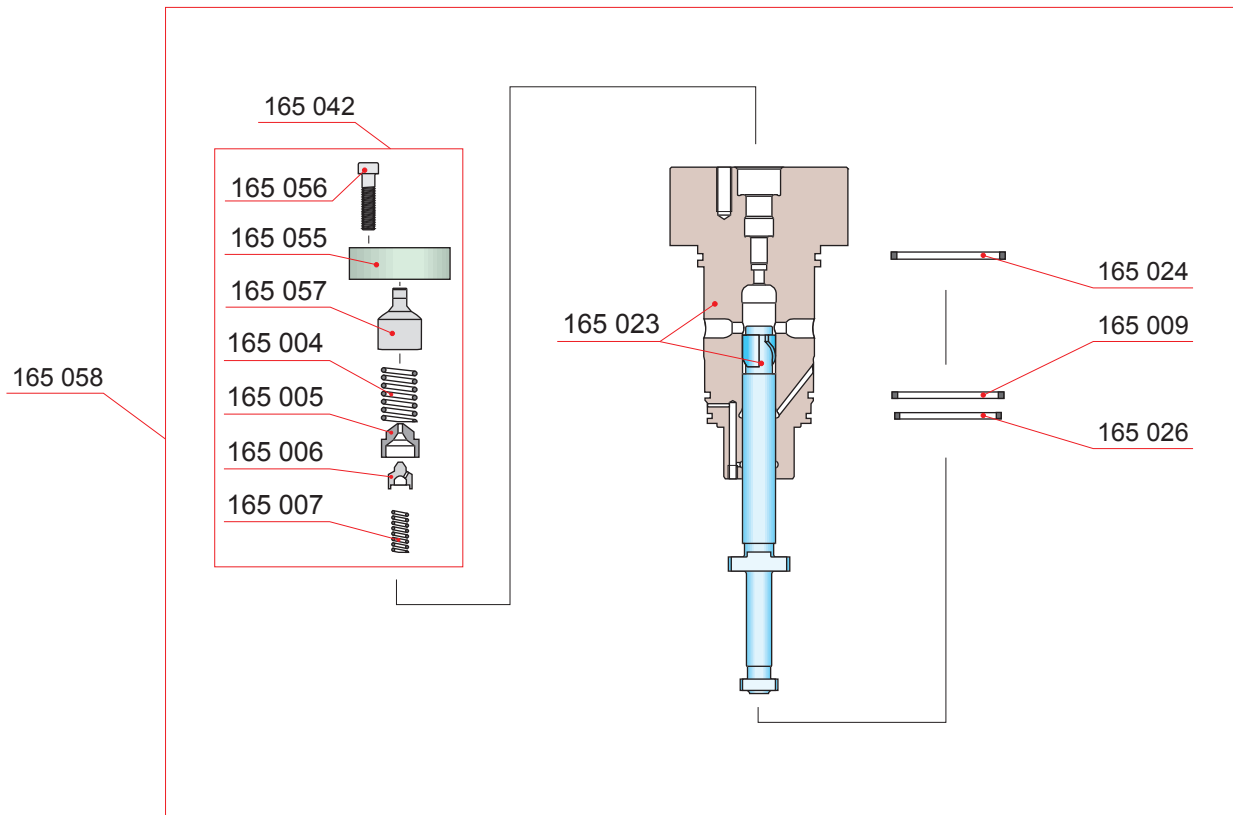
Edition: E
 Page: 2(4)
 Updated: 30.11.2016

Injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 018	Guide screw	1	-
165 034	Indicator	1	-
165 036	Screw	1	-
165 037	Fuel rack	1	0.1
165 059	Sealing ring	1	-
165 060	Vent screw	1	-

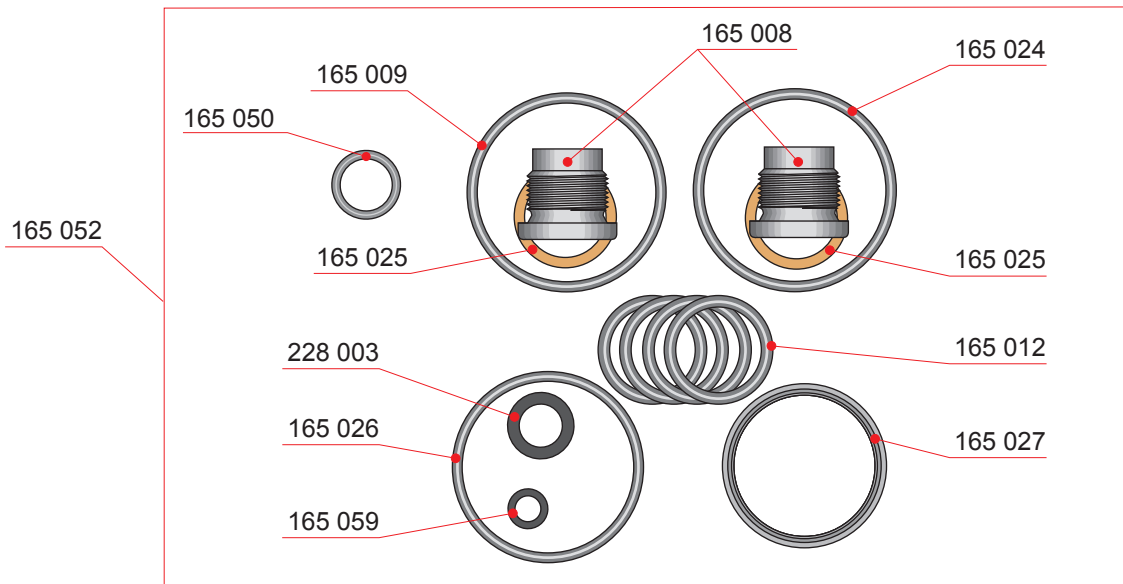
Injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 058	Spare part kit	1	4.6
165 009	Sealing ring (2)	1	-
165 023	Pump element (2)	1	-
165 024	Sealing ring (2)	1	-
165 026	O-ring (2)	1	-
165 042	Two way pressure valve, compl.	1	0.4
165 004	Spring (2)	1	-
165 005	Seat (2)	1	-
165 006	Needle (2)	1	-
165 007	Spring (2)	1	-
165 055	Flange	1	0.3
165 056	Screw	4	-
165 057	Pressure piece (2)	1	-

NOTE! (2) Parts included in the set and not delivered separately!

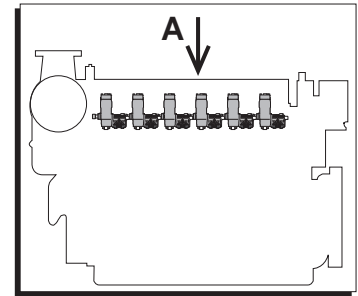
Edition: E
 Page: 4(4)
 Updated: 30.11.2016
Injection pump



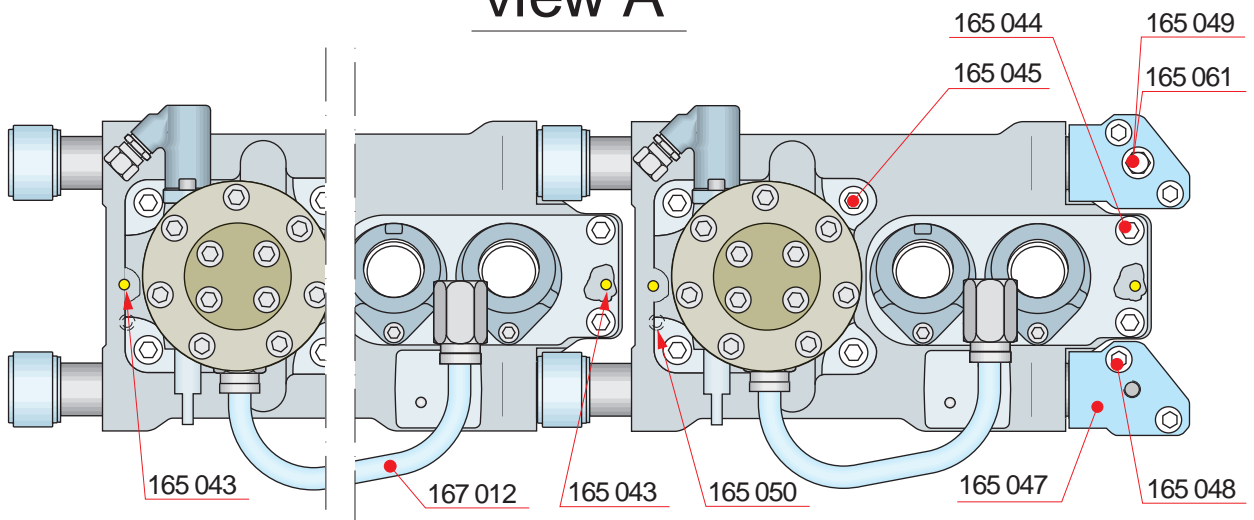
Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 052	Sealing kit for injection pump	1	0.2
165 008	Erosion plug	2	-
165 009	Sealing ring	1	-
165 012	O-ring	4	0.1
165 024	Sealing ring	1	-
165 025	Sealing ring	1	-
165 026	O-ring	1	-
165 027	Scraper ring	1	-
165 050	O-ring	1	-
165 059	Sealing ring	1	-
228 003	Slide ring (3)	1	-

NOTE! (3) see section 228-01.

Fuel oil system in Hot-box



View A



Part No.	Description	Qty [Pcs]	Wt. [Kg]
165 043	Pin	*	-
165 044	Screw	*	-
165 045	Screw	*	-
165 047	End piece	2	1.0
165 048	Screw	4	-
165 049	Plug	1	-
165 050	O-ring	*	-
165 061	Sealing ring	1	-
167 012	Injection pipe	*	-

NOTE! *see page 2.

Edition: A

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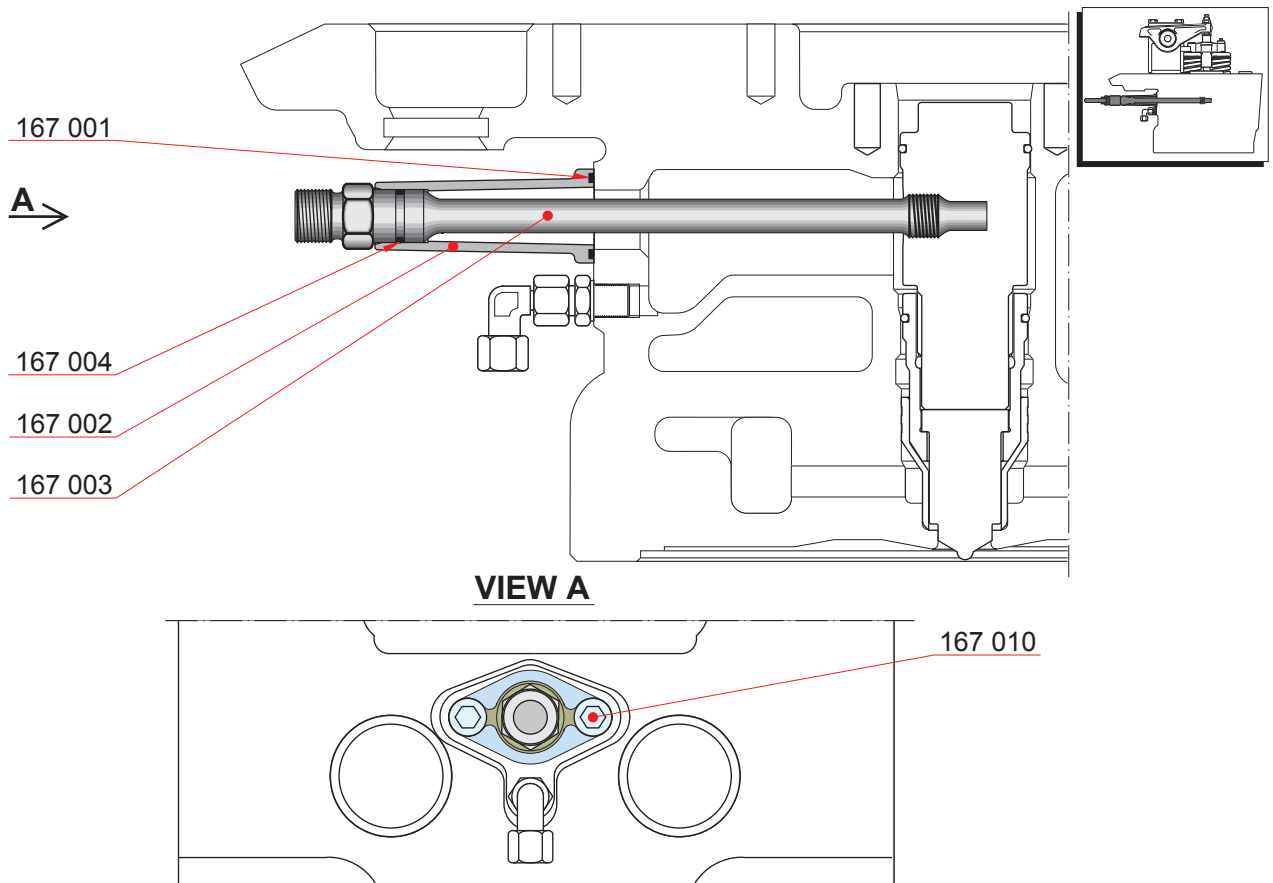
Updated: 09.12.1998

Fuel oil system in Hot-box

Quantity according to number of cylinders

Part No	Pieces				
	4L20	5L20	6L20	8L20	9L20
165 043	8	10	12	16	18
165 044	8	10	12	16	18
165 045	16	20	24	32	36
165 050	4	5	6	8	9
167 012	4	5	6	8	9

High pressure connection piece

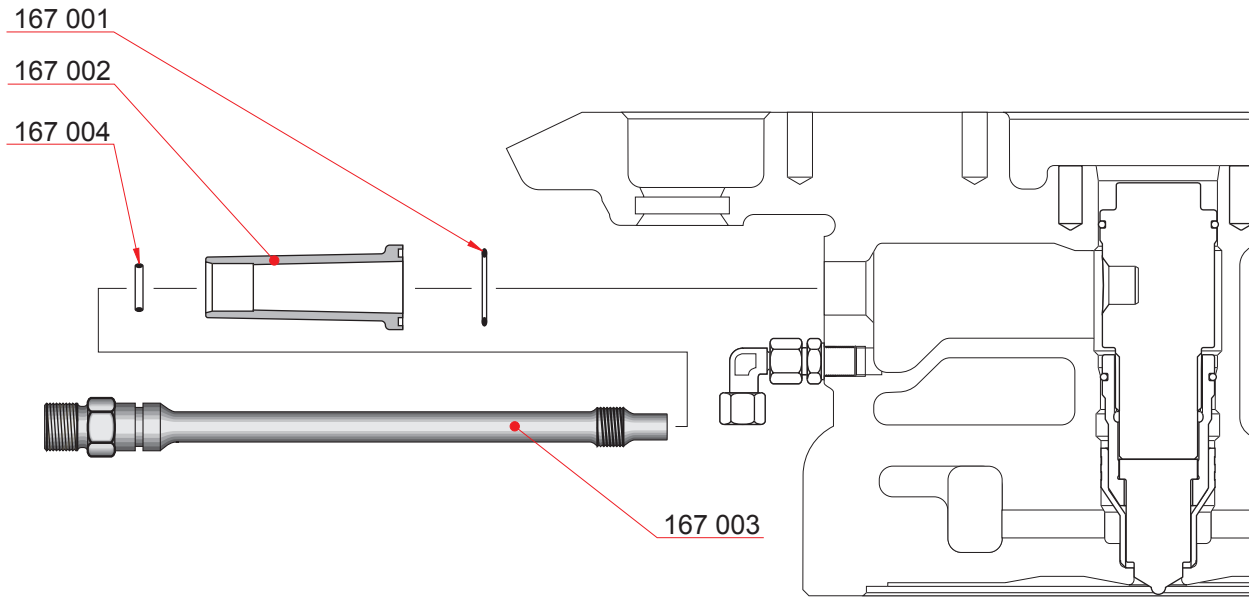


Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 001	O-ring	1	-
167 002	Protecting sleeve	1	-
167 003	Connection piece	1	-
167 004	O-ring	1	-
167 010	Screw	2	-

Edition: C

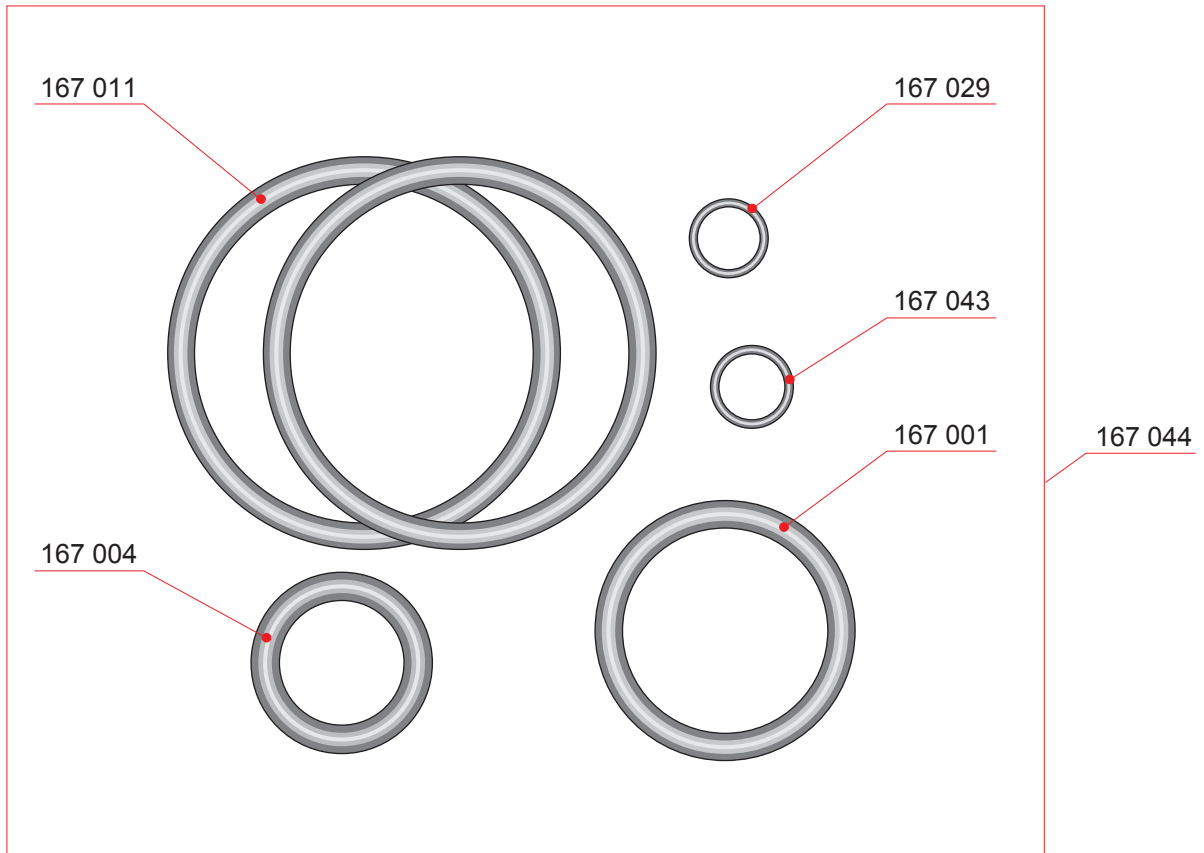
Page: 2(3)

Updated: 12.09.2002

High pressure connection piece

Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 001	O-ring	1	-
167 002	Protecting sleeve	1	-
167 003	Connection piece	1	-
167 004	O-ring	1	-

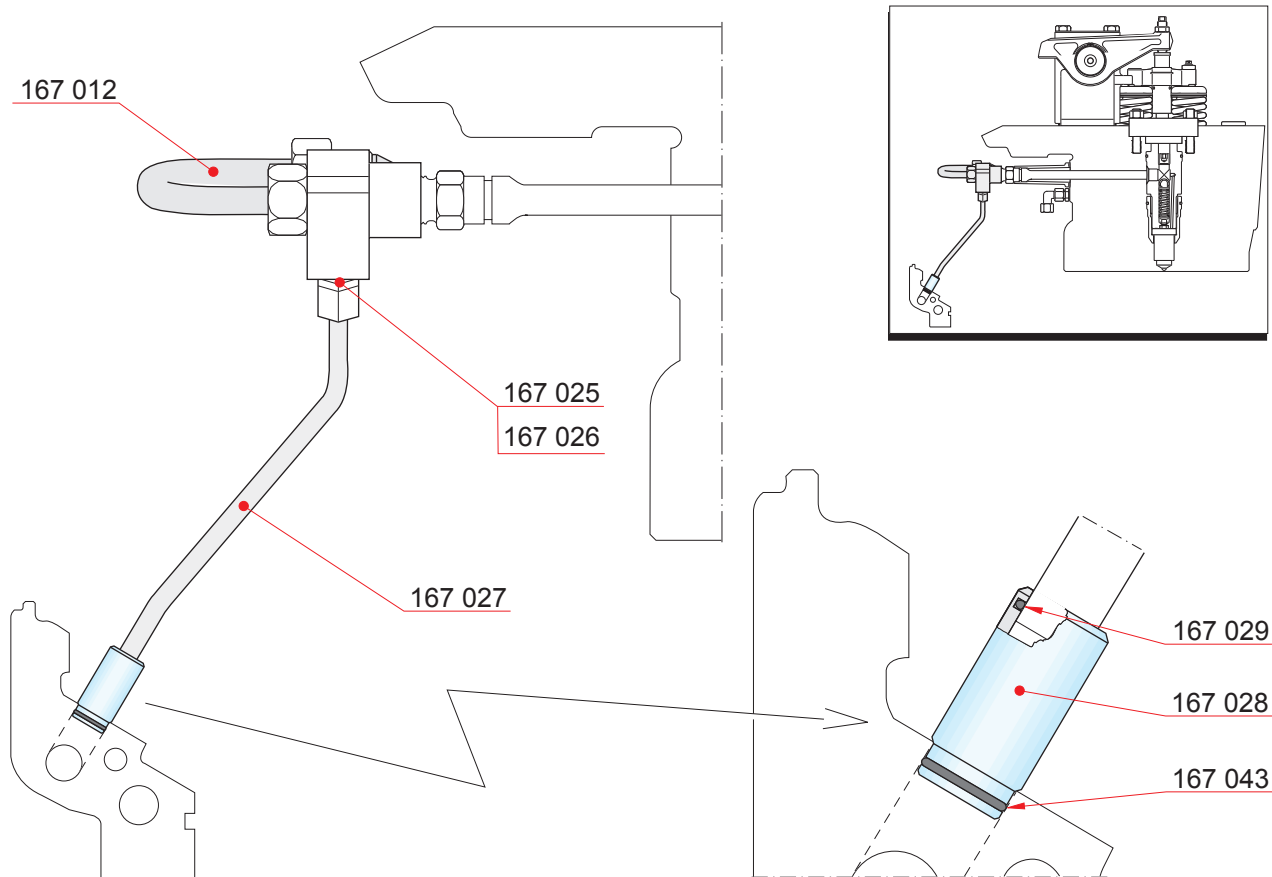
High pressure connection piece



Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 044	Sealing set for injection valve	1	-
167 001	O-ring	1	-
167 004	O-ring	1	-
167 011	O-ring	2	-
167 029	O-ring	1	-
167 043	O-ring	1	-

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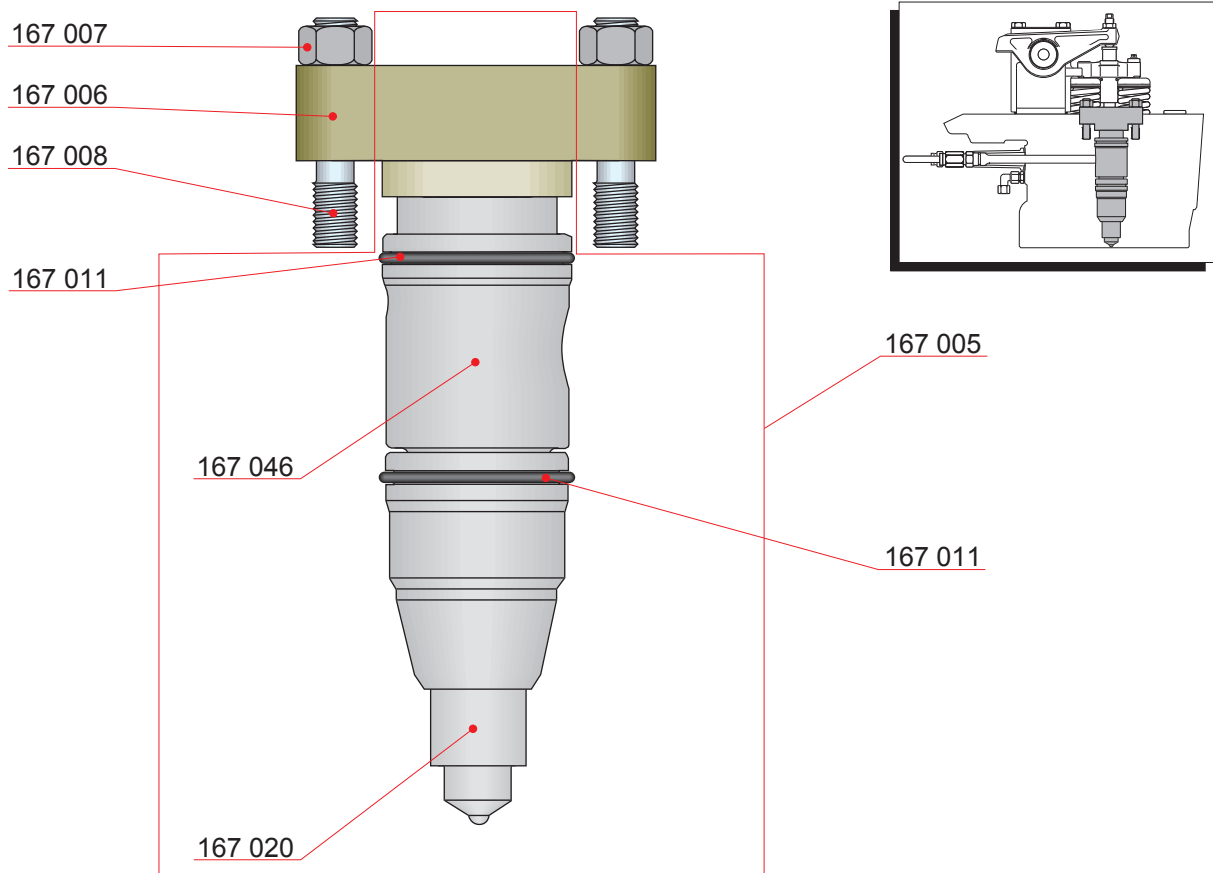
Injection pipe for long stroke injection pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 012	Injection pipe	1	-
167 025	Pipe union	1	-
167 026	Sealing ring	2	-
167 027	Leak oil pipe	1	-
167 028	Connection piece	1	-
167 029	O-ring	1	-
167 043	O-ring	1	-

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Injection valve

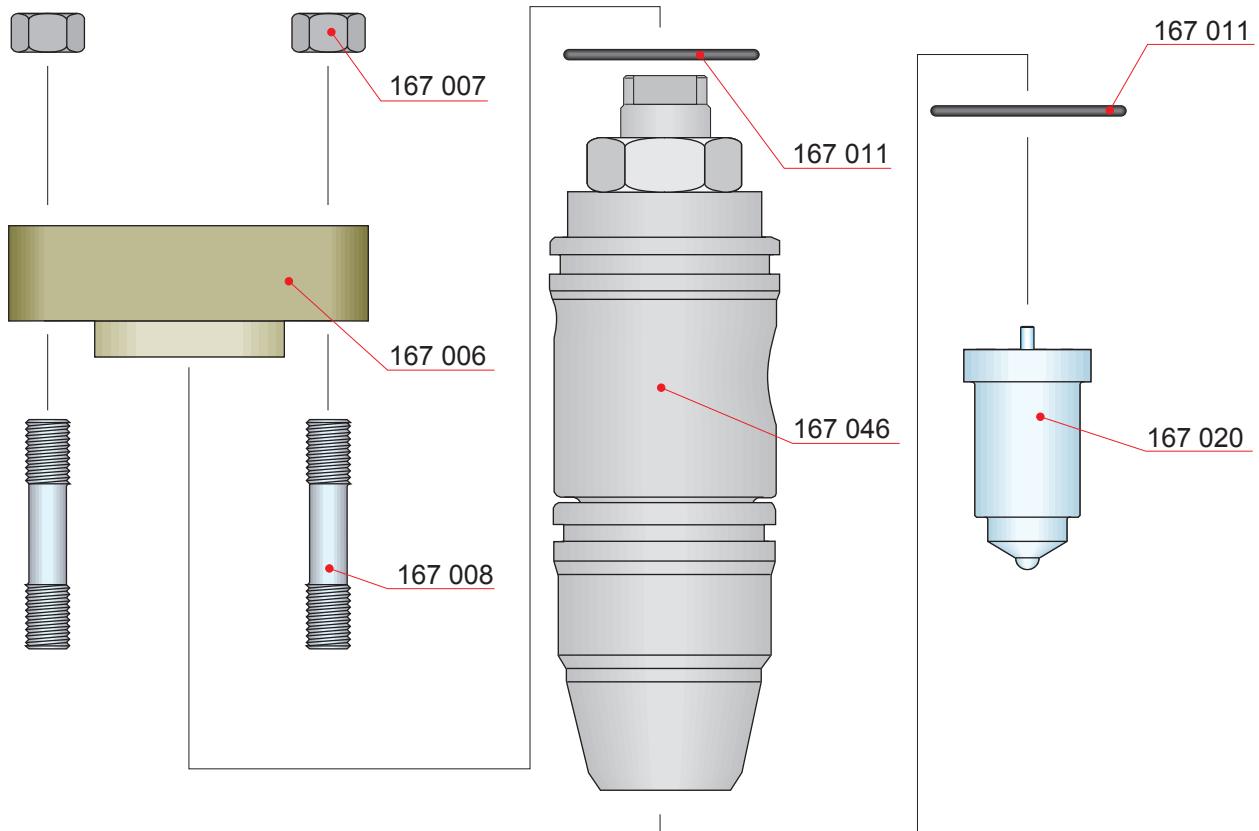


Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 005	Injection valve	1	3.0
167 020	Nozzle	1	0.3
167 046	Nozzle holder	1	2.7
167 006	Yoke	1	-
167 007	Nut	2	-
167 008	Screw	2	-
167 011	O-ring (1)	2	-

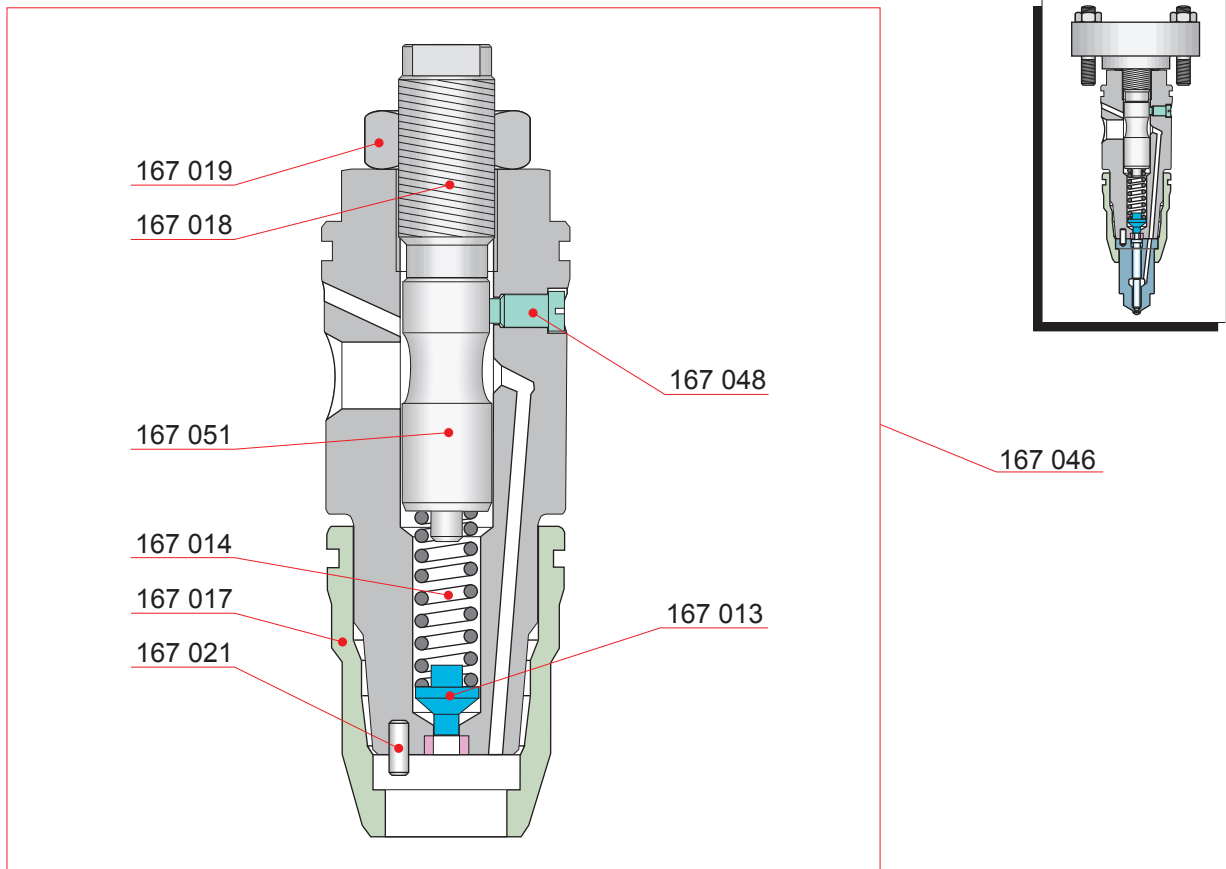
NOTE! (1) Included in the sealing set 167 044

Edition: C
Page: 2(5)
Updated: 09.11.2005

Injection valve



Injection valve

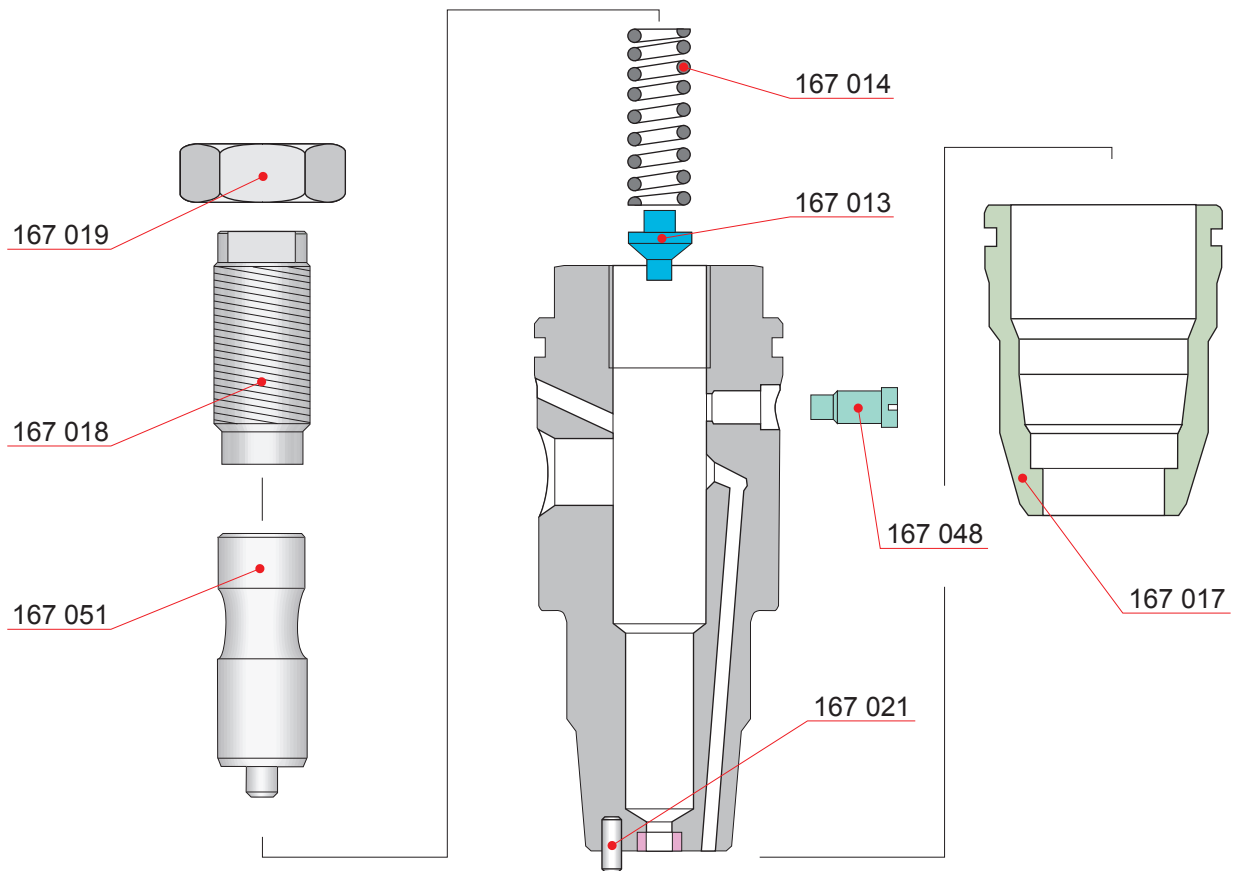


Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 046	Nozzle holder	1	2.7
167 013	Push rod	1	-
167 014	Spring	1	-
167 017	Nozzle nut	1	0.4
167 018	Adjusting screw	1	-
167 019	Retainer screw	1	-
167 021	Pin	1	-
167 048	Guide screw (1)	1	-
167 051	Push rod	1	0.1

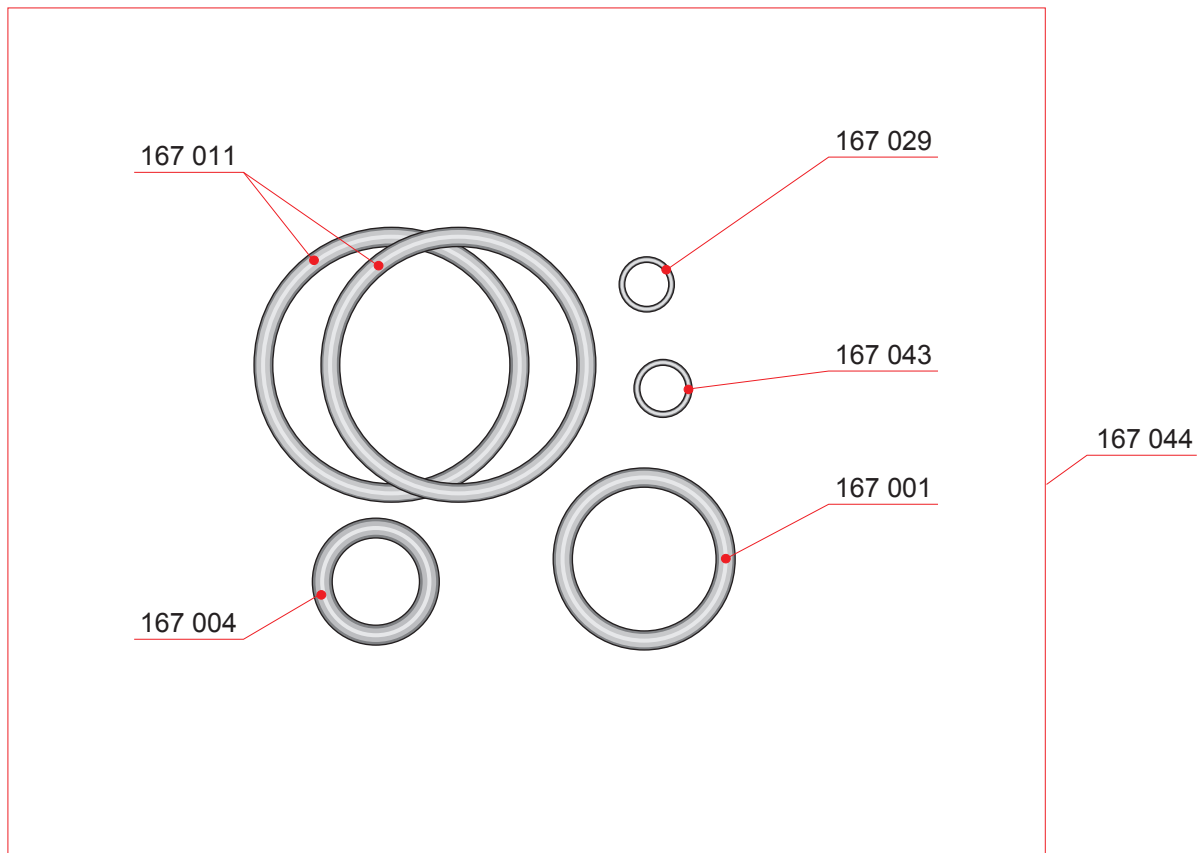
NOTE! (1) Secured with Loctite or equivalent

Edition: C
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Updated: 09.11.2005

Injection valve



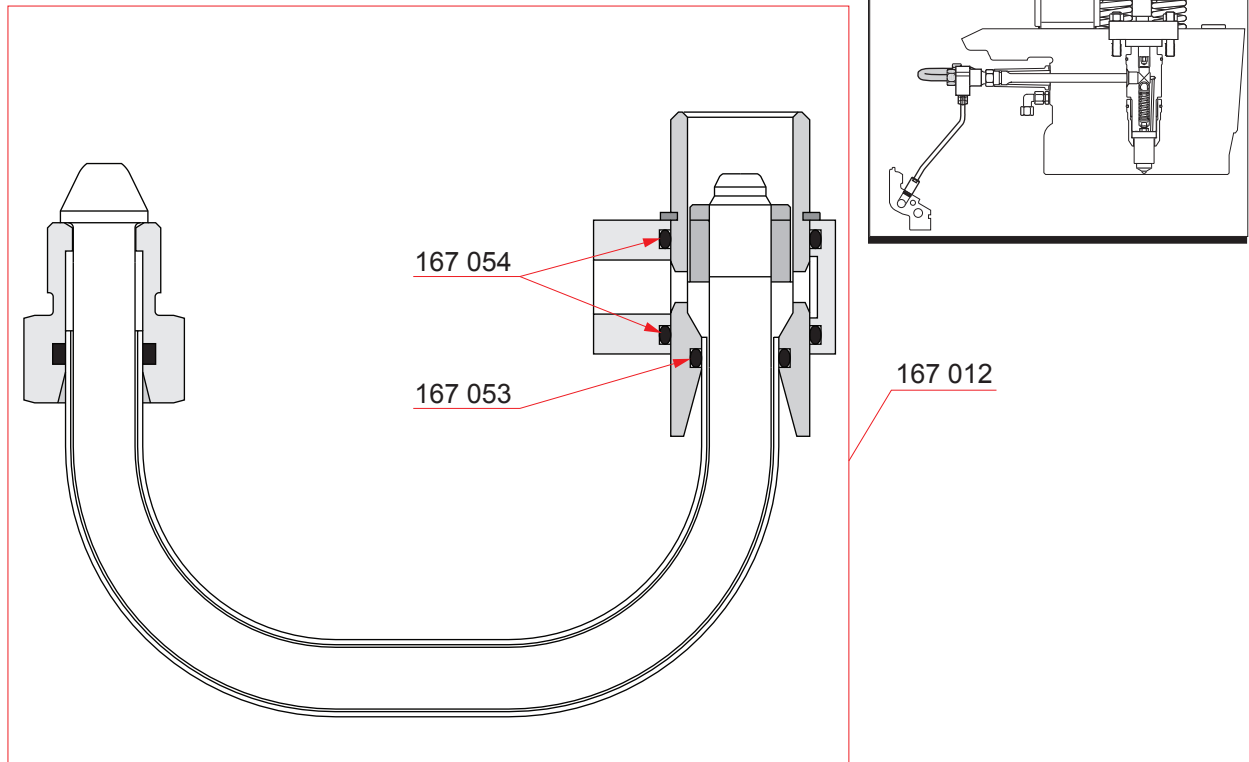
Injection valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 044	Sealing set for injection valve	1	-
167 001	O-ring	1	-
167 004	O-ring	1	-
167 011	O-ring	2	-
167 029	O-ring	1	-
167 043	O-ring	1	-

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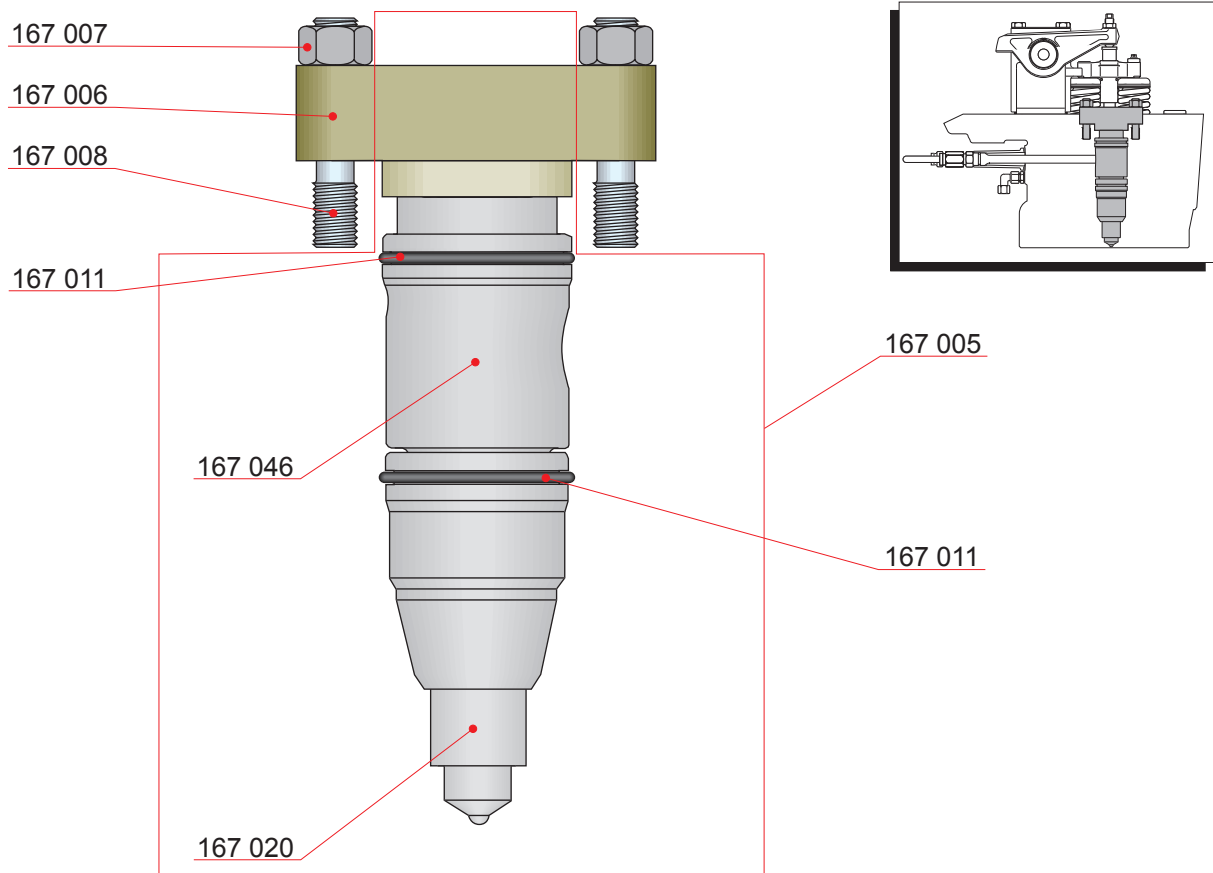
Injection pipe



Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 012	Injection pipe	1	0.7
167 053	O-ring	1	-
167 054	O-ring	2	-

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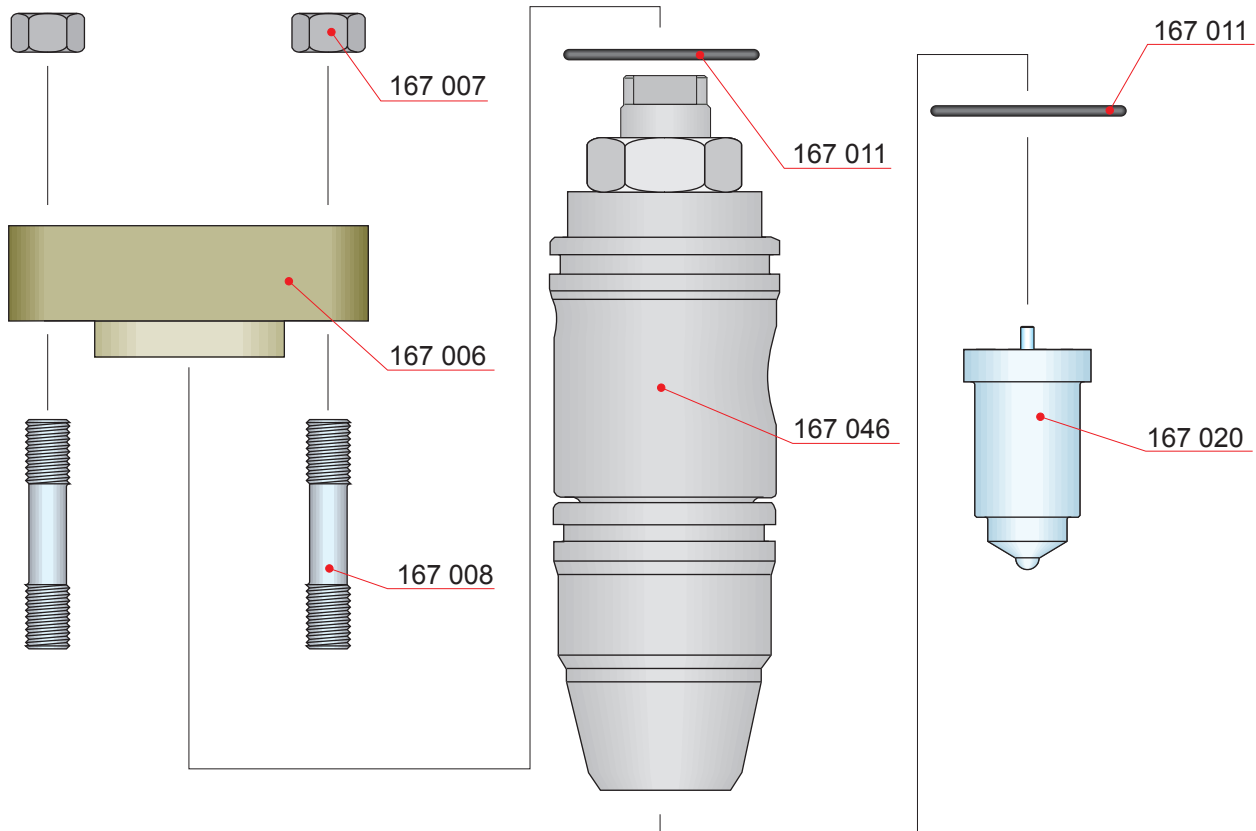
Injection valve



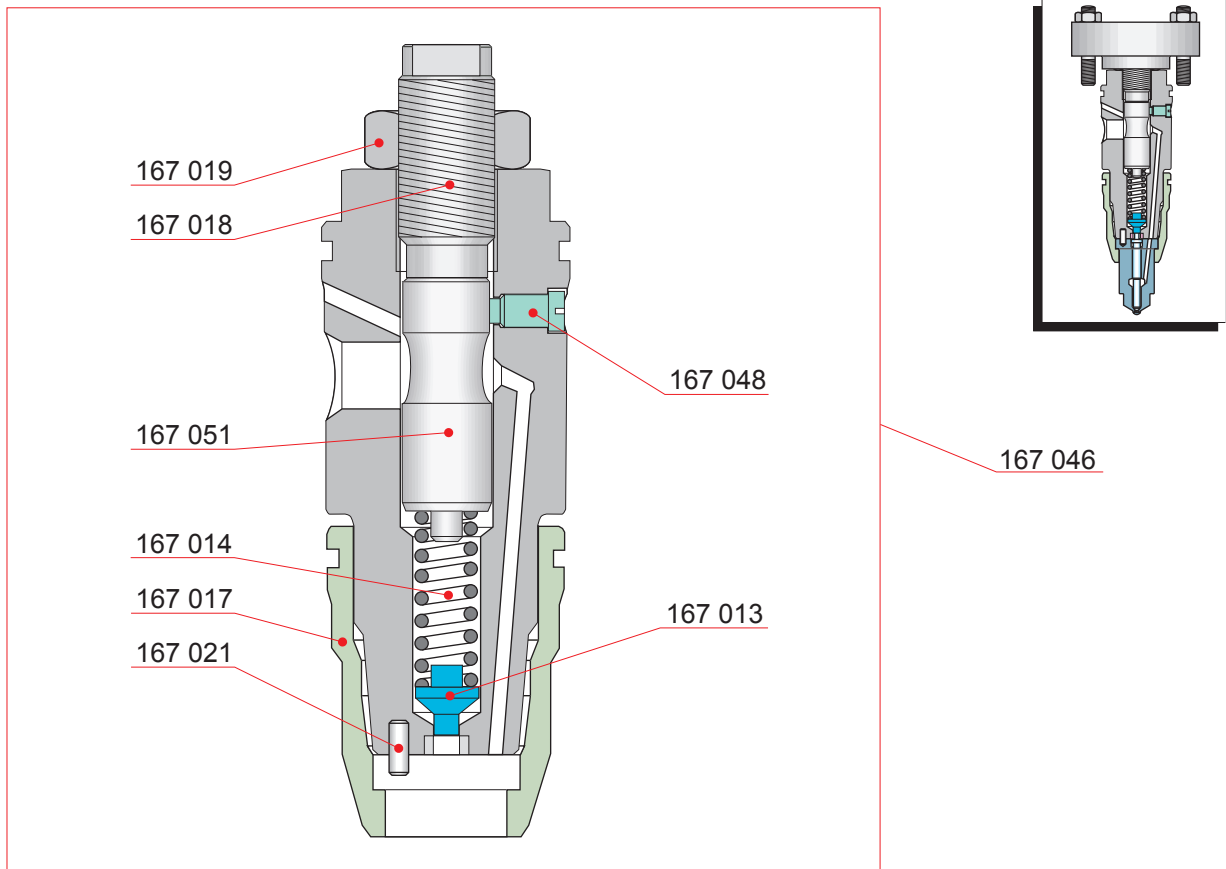
Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 005	Injection valve	1	3.0
167 020	Nozzle	1	0.3
167 046	Nozzle holder	1	2.7
167 006	Yoke	1	-
167 007	Nut	2	-
167 008	Screw	2	-
167 011	O-ring	2	-

Edition: B
Page: 2(5)
Updated: 30.09.2011

Injection valve



Injection valve

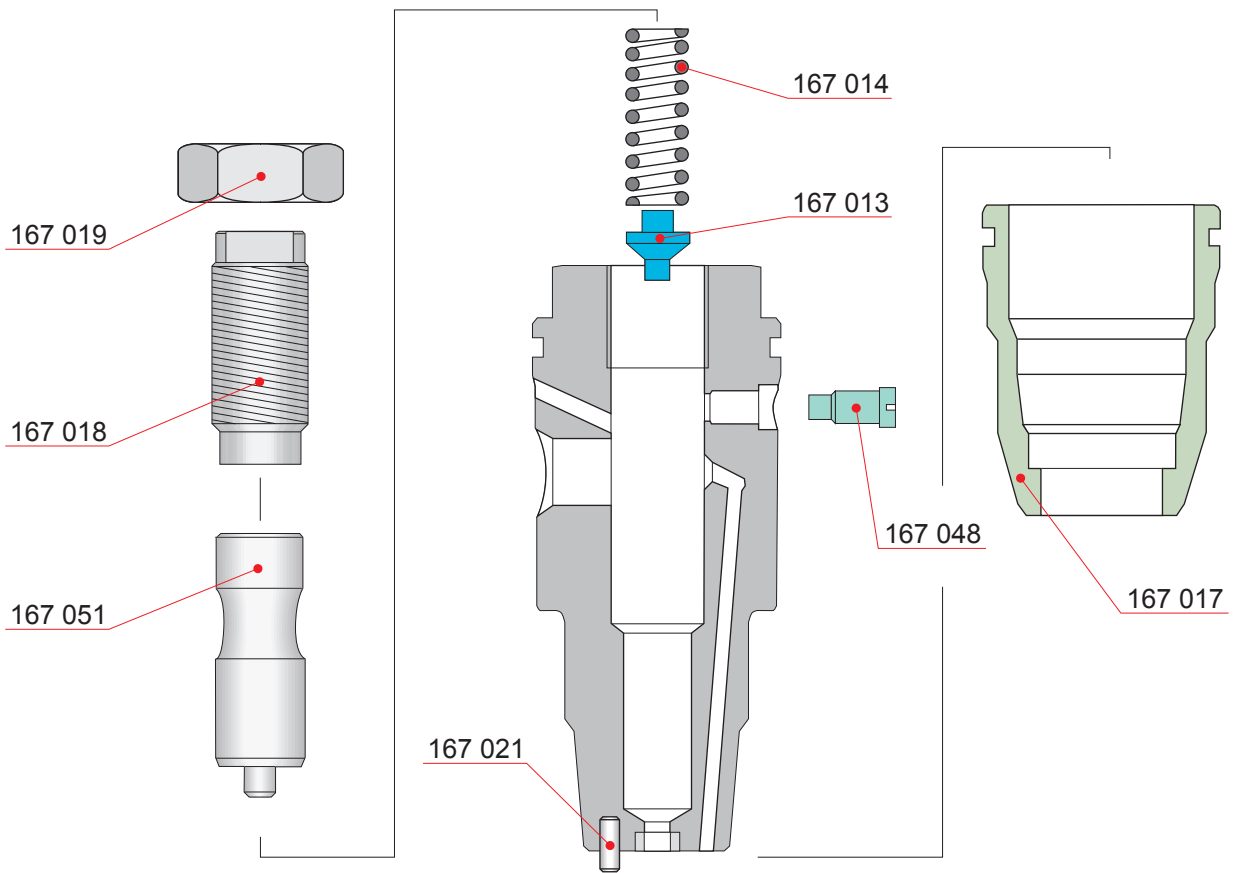


Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 046	Nozzle holder	1	2.7
167 013	Push rod	1	-
167 014	Spring	1	-
167 017	Nozzle nut	1	0.4
167 018	Adjusting screw	1	-
167 019	Retainer screw	1	-
167 021	Pin	2	-
167 048	Guide screw (1)	1	-
167 051	Push rod	1	0.1

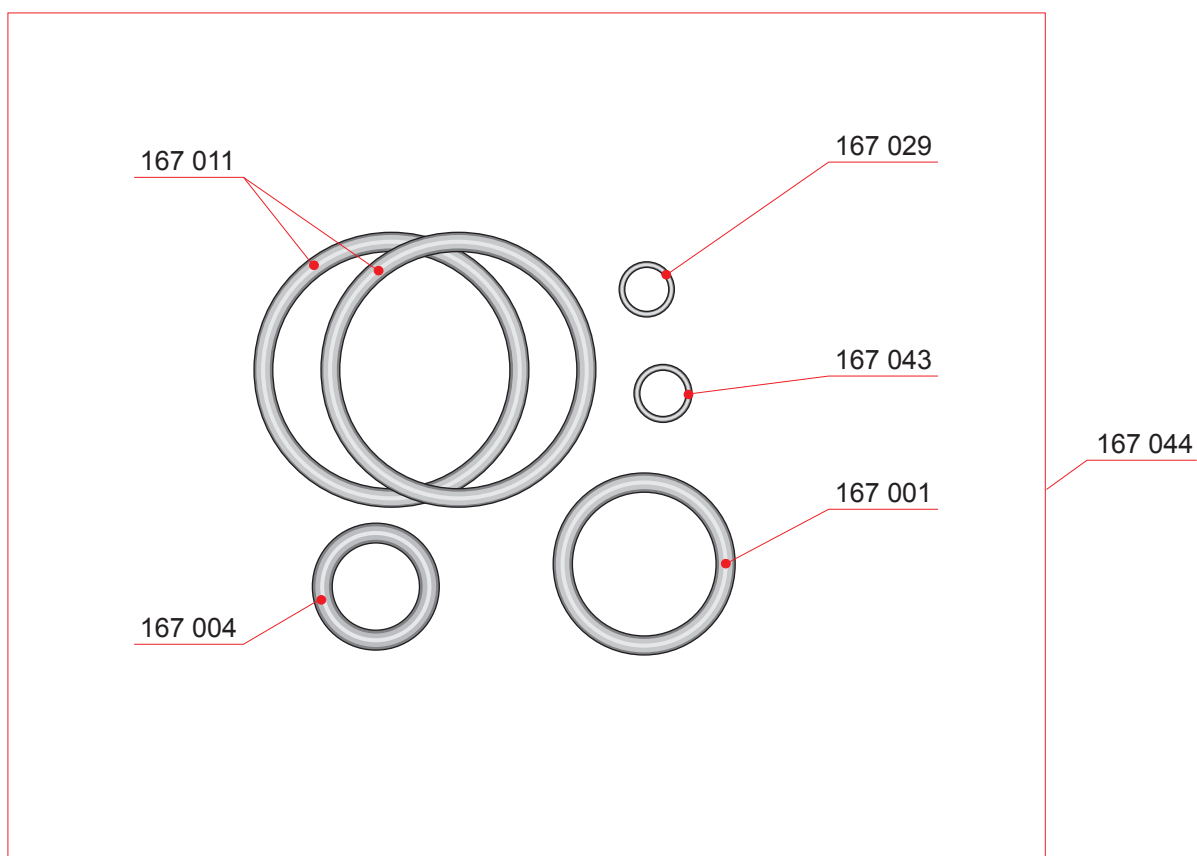
NOTE! (1) Secured with Loctite or equivalent

Edition: B
Page: 4(5)
Updated: 30.09.2011

Injection valve



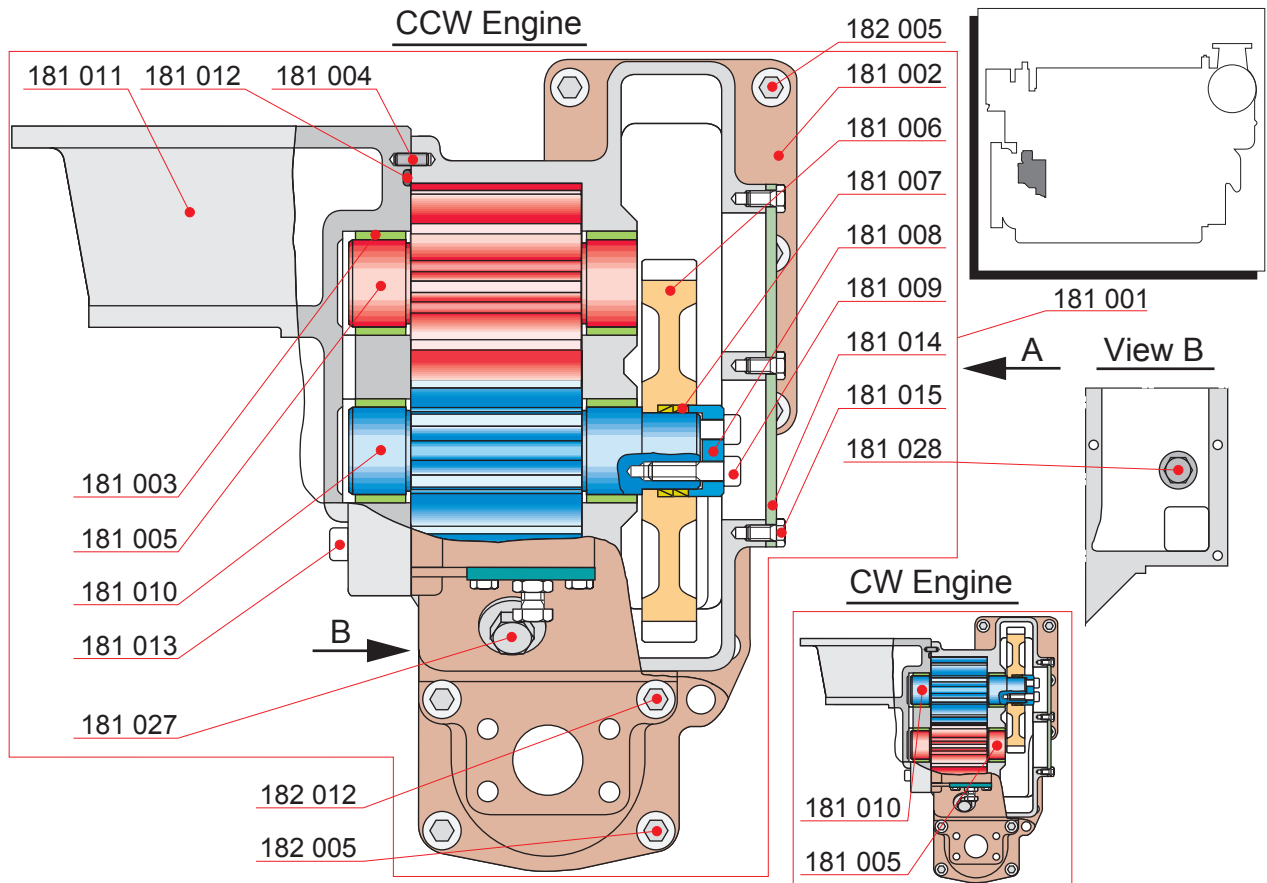
Injection valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
167 044	Sealing kit for injection valve	1	-
167 001	O-ring	1	-
167 004	O-ring	1	-
167 011	O-ring	2	-
167 029	O-ring	1	-
167 043	O-ring	1	-

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Lubricating oil pump

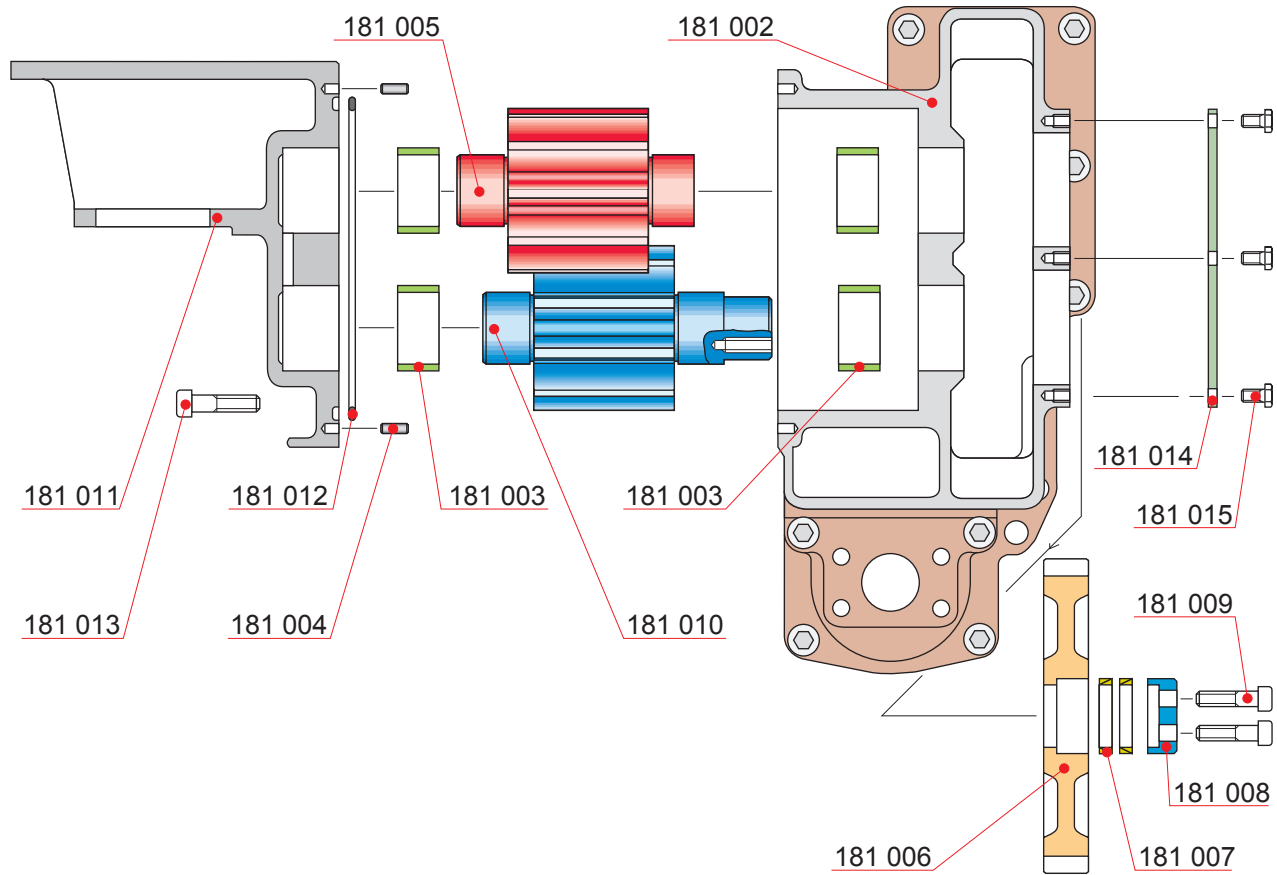


Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 001	Lubricating oil pump	1	87.0
181 028	Plug	1	0.1
181 002	Housing	1	-
181 003	Bearing bush	4	0.2
181 004	Pin	2	-
181 005	Drive shaft	1	6.8
181 006	Drive gear	1	5.7
181 007	Pair of friction rings	2	-
181 008	Pressure plate	1	0.2
181 009	Screw	4	-
181 010	Drive shaft	1	6.4
181 011	Cover	1	-
181 012	O-ring	1	-
181 013	Screw	9	-
181 014	Cover plate	1	1.2
181 015	Screw	7	-
181 027	Plug	1	0.3
182 005	Screw	10	-
182 012	Screw	2	-

Edition: C

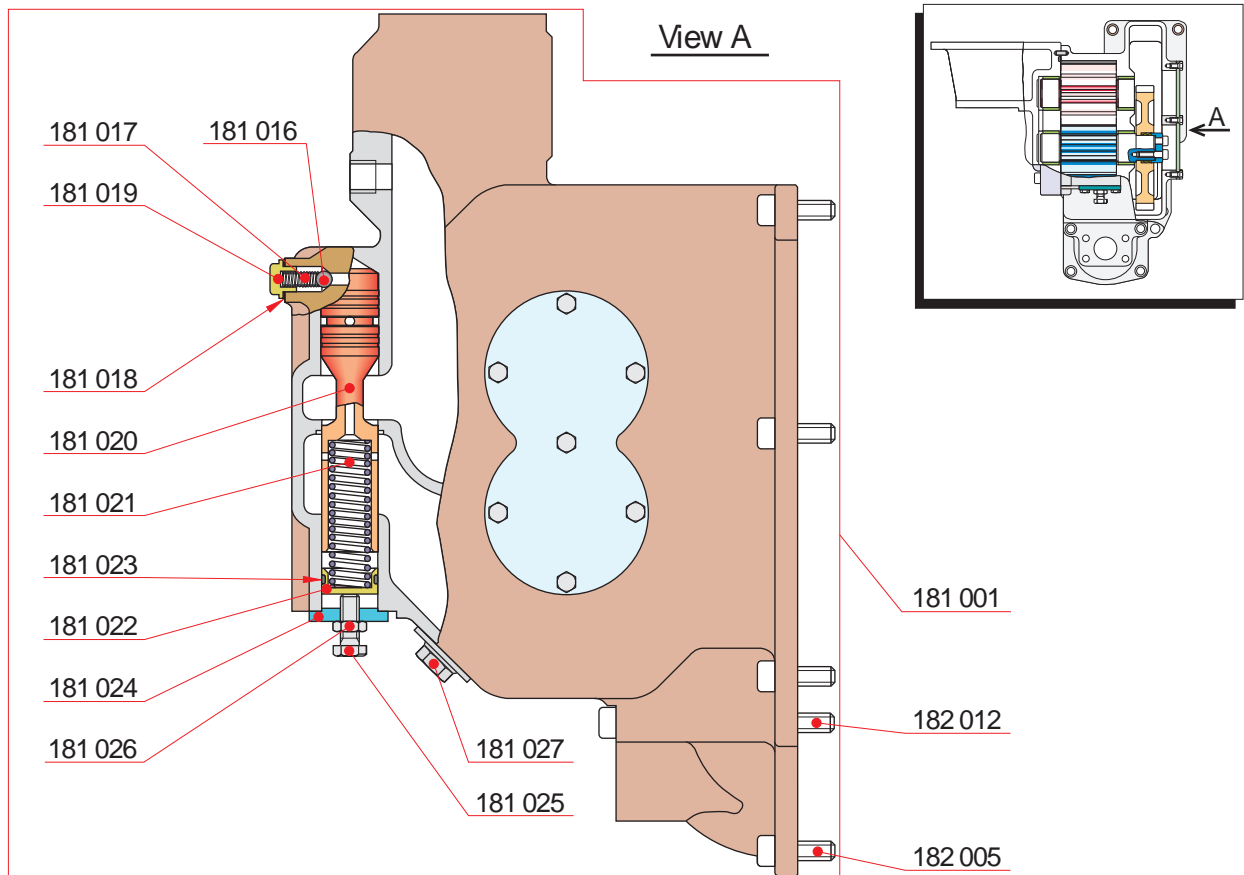
Page: 2(4)

Updated: 12.08.2003

Lubricating oil pump

Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 002	Housing	1	-
181 003	Bearing bush	4	0.2
181 004	Pin	2	-
181 005	Drive shaft	1	6.8
181 006	Drive gear	1	5.7
181 007	Pair of friction rings	2	-
181 008	Pressure plate	1	0.2
181 009	Screw	4	-
181 010	Drive shaft	1	6.4
181 011	Cover	1	-
181 012	O-ring	2	-
181 013	Screw	9	-
181 014	Cover plate	1	1.2
181 015	Screw	7	-

Lubricating oil pump

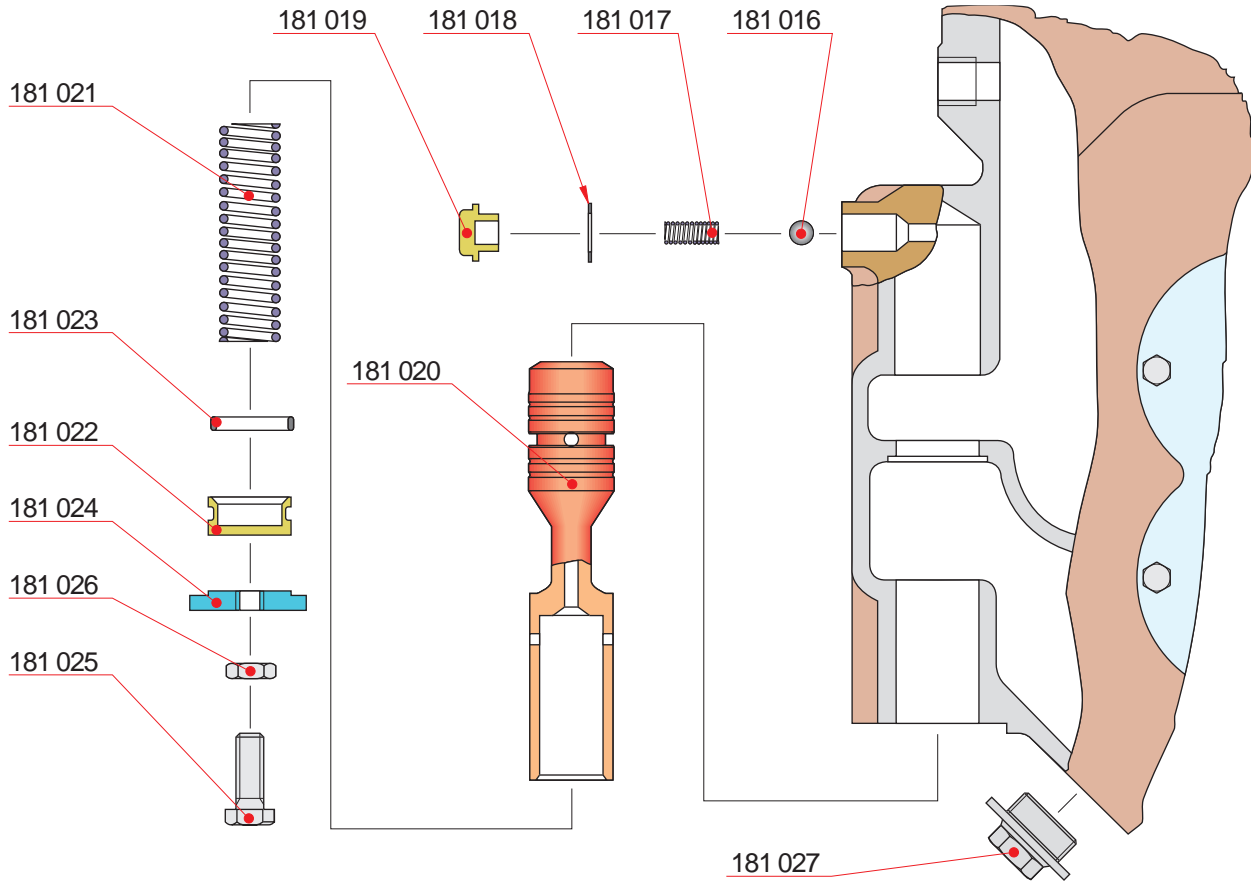


Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 001	Lubricating oil pump	1	87.0
181 027	Plug	1	0.3
181 016	Ball	1	-
181 017	Compression spring	1	-
181 018	Gasket	1	-
181 019	Plug	1	-
181 020	Piston	1	1.1
181 021	Compression spring	1	0.1
181 022	Spring holder	1	-
181 023	O-ring	1	-
181 024	Cover	1	0.2
181 025	Nut	1	-
181 026	Screw	1	-
182 005	Screw	10	-
182 012	Screw	2	-

Edition: C

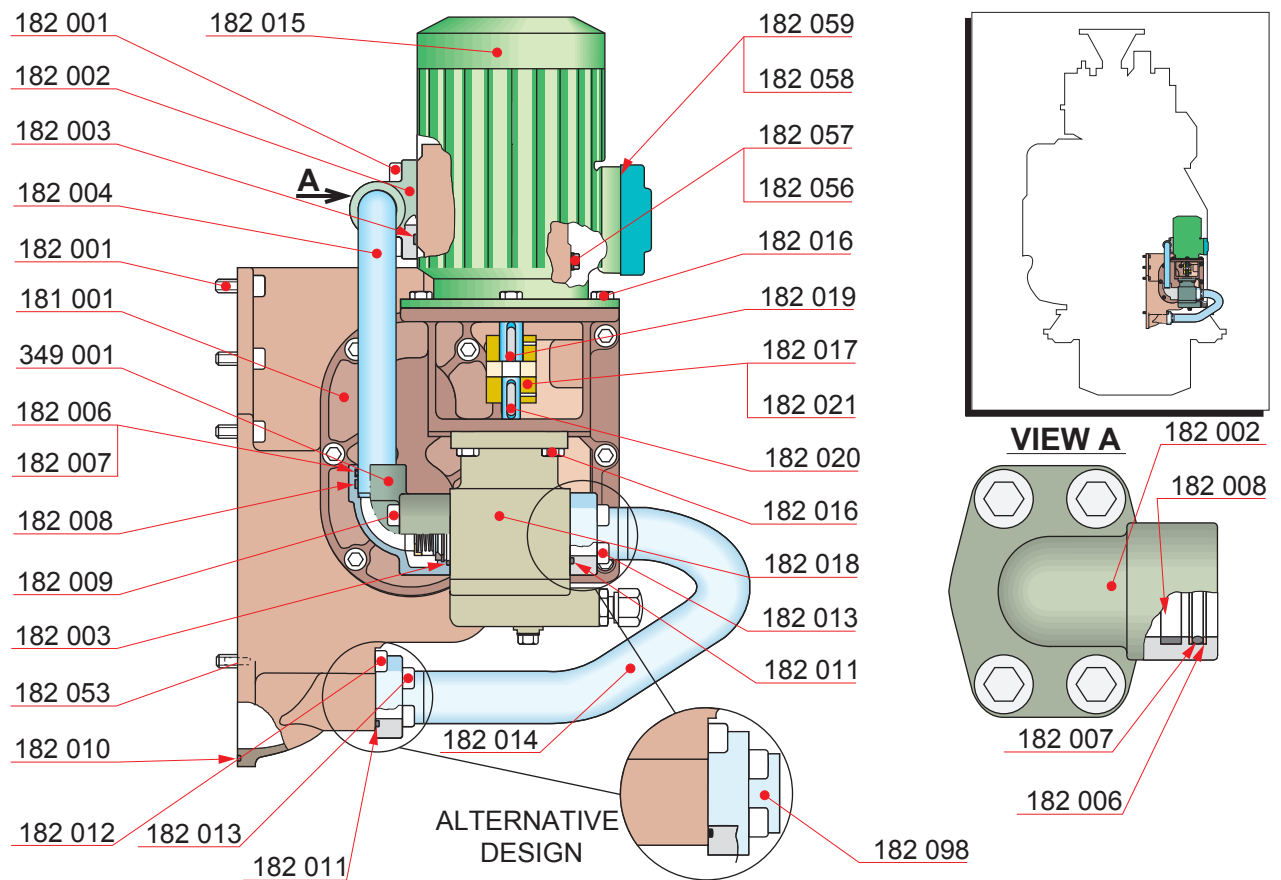
Page: 4(4)

Updated: 12.08.2003

Lubricating oil pump

Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 016	Ball	1	-
181 017	Compression spring	1	-
181 018	Gasket	1	-
181 019	Plug	1	-
181 020	Piston	1	1.1
181 021	Compression spring	1	0.1
181 022	Spring holder	1	-
181 023	O-ring	1	-
181 024	Cover	1	0.2
181 025	Nut	1	-
181 026	Screw	1	-
181 027	Plug	1	0.3

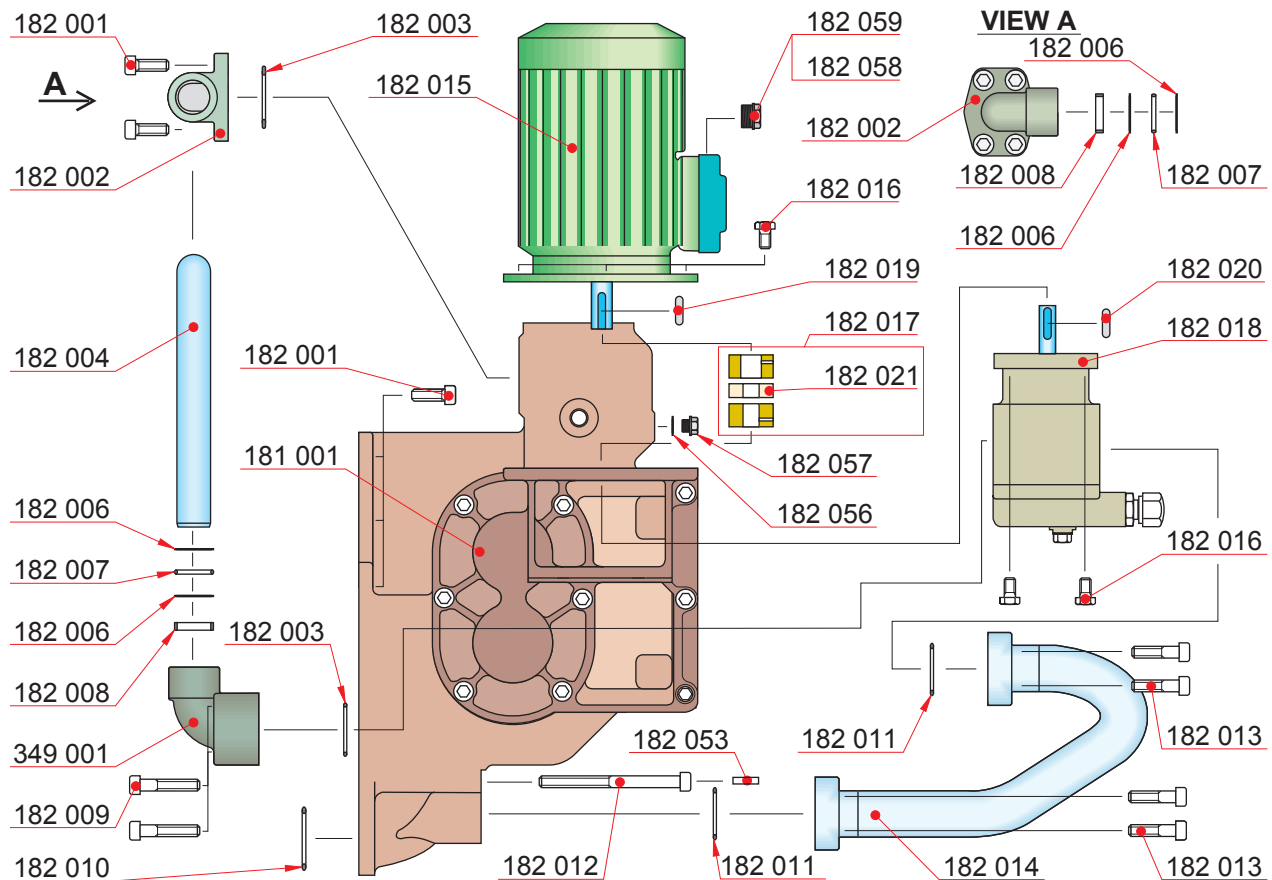
Lubricating oil pump module



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 001	Lubricating oil pump (1)	1	87.0	182 018	Prelubricating oil pump (2)	1	8.5
182 002	Bend	1	1.1	182 056	Sealing ring	1	-
182 004	Pipe	1	0.9	182 058	Cable gland	1	-
182 014	Pipe	1	3.5	182 098	Flange	2	-
182 020	Key	1	-	349 001	Non-return valve (3)	1	1.8
182 053	Pin	2	-				
182 057	Plug	1	-				
182 059	Nut	1	-				
182 001	Screw	14	-				
182 003	O-ring	2	-				
182 006	Support ring	4	-				
182 007	O-ring	2	-				
182 008	Guide ring	2	-				
182 009	Screw	4	-				
182 010	O-ring	1	-				
182 011	O-ring	2	-				
182 012	Screw	2	0.1				
182 013	Screw	8	-				
182 015	Electrical motor	1	-				
182 019	Key	1	-				
182 016	Screw	8	-				
182 017	Flexible coupling	1	0.3				
182 021	Flexible coupling rubber	1	-				

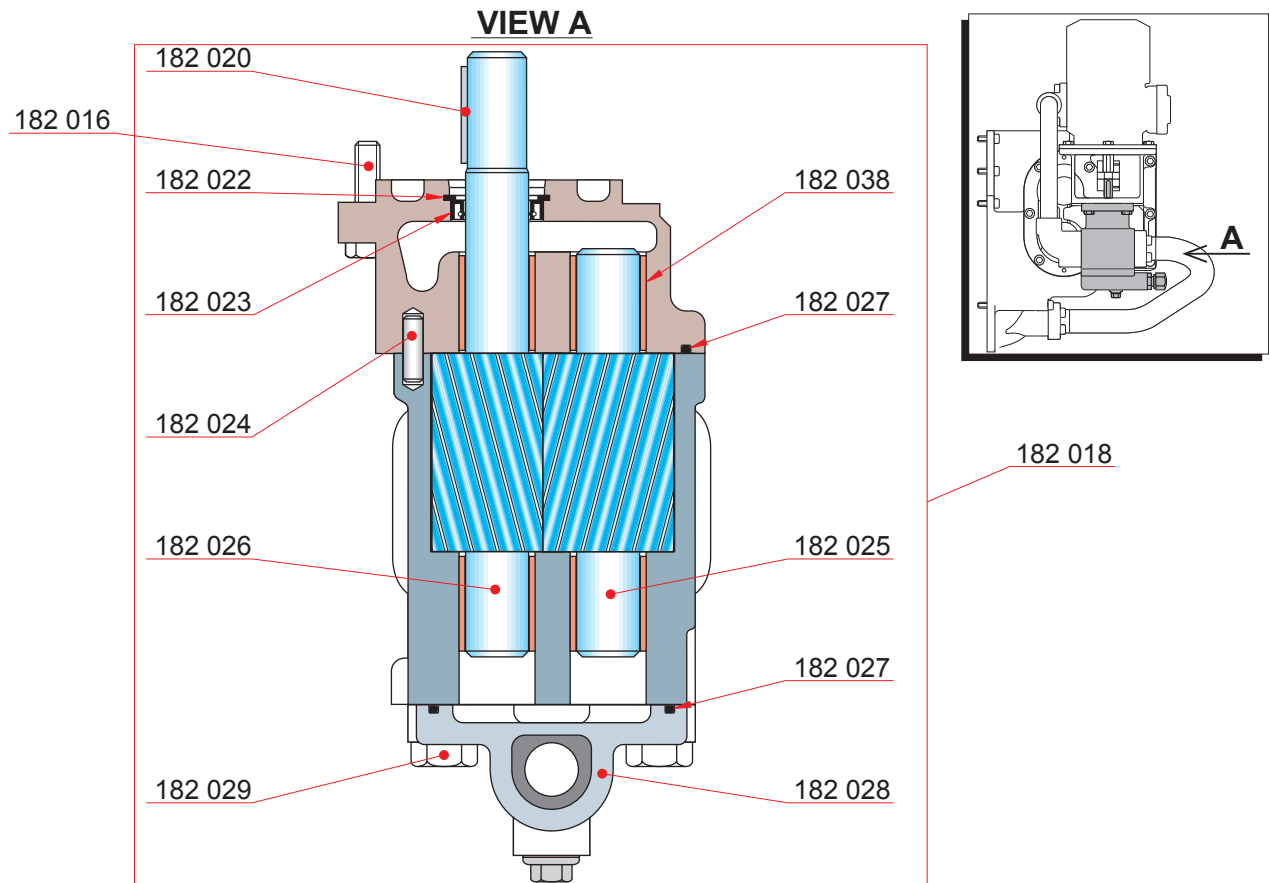
Edition: E
Page: 2(2)
Updated: 27.04.2016

Lubricating oil pump module



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
181 001	Lubricating oil pump	1	87.0	182 057	Plug	1	-
182 001	Screw	14	-	182 058	Cable gland	1	-
182 002	Bend	1	1.1	182 059	Nut	1	-
182 003	O-ring	2	-	349 001	Non-return valve	1	1.8
182 004	Pipe	1	0.9				
182 006	Support ring	4	-	NOTE!	(1) See section 181.		
182 007	O-ring	2	-	NOTE!	(2) see detailed picture later in this section 182.		
182 008	Guide ring	2	-	NOTE!	(3) See section 349.		
182 009	Screw	4	-				
182 010	O-ring	1	-				
182 011	O-ring	2	-				
182 012	Screw	2	0.1				
182 013	Screw	8	-				
182 014	Pipe	1	3.5				
182 015	Electrical motor	1	-				
182 016	Screw	8	-				
182 017	Flexible coupling	1	0.3				
182 018	Prelubricating oil pump	1	8.5				
182 019	Key	1	-				
182 020	Key	1	-				
182 021	Flexible coupling rubber	1	-				
182 053	Pin	2	-				
182 056	Sealing ring	1	-				

Prelubricating oil pump

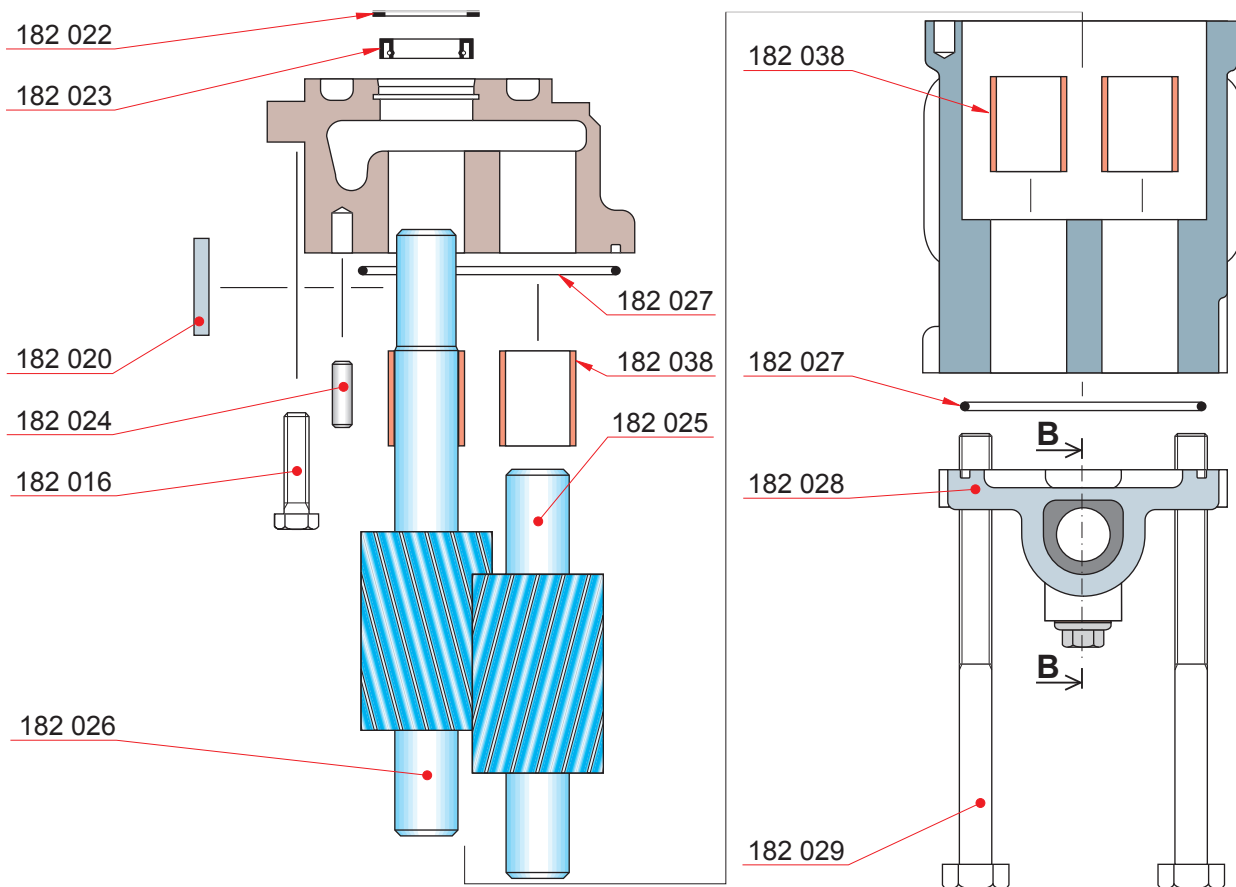


Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 016	Screw	4	-
182 018	Prelubricating oil pump	1	8.5
182 020	Key	1	-
182 022	Retainer ring	1	-
182 023	Seal	1	-
182 024	Pin	2	-
182 025	Gear shaft	1	0.6
182 026	Drive gear shaft	1	0.8
182 027	O-ring	2	-
182 028	Pressure control valve (1)	1	1.4
182 029	Screw	4	-
182 038	Bearing bush	4	-

NOTE! (1) See page 3.

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Updated: 10.11.1997

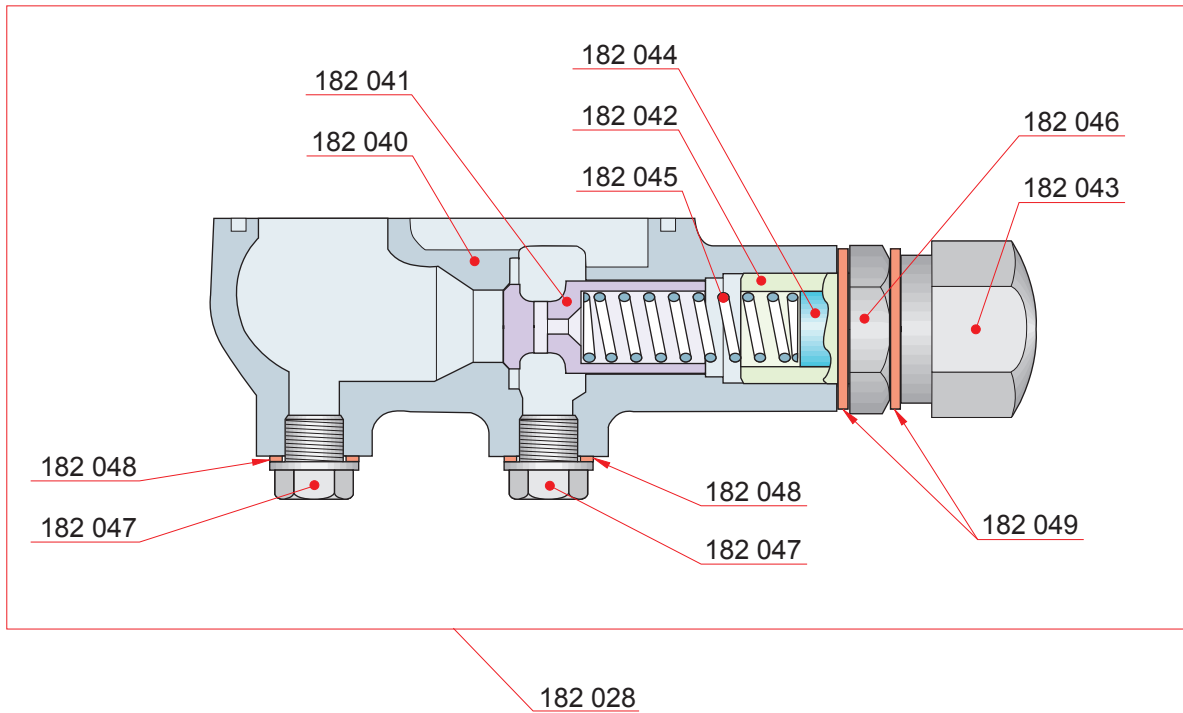
Prelubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 016	Screw	4	-
182 020	Key	1	-
182 022	Retainer ring	1	-
182 023	Seal	1	-
182 024	Pin	2	-
182 025	Gear shaft	1	0.6
182 026	Drive gear shaft	1	0.8
182 027	O-ring	2	-
182 028	Pressure control valve	1	1.4
182 029	Screw	4	-
182 038	Bearing bush	4	-

Prelubricating oil pump

SECTION B-B

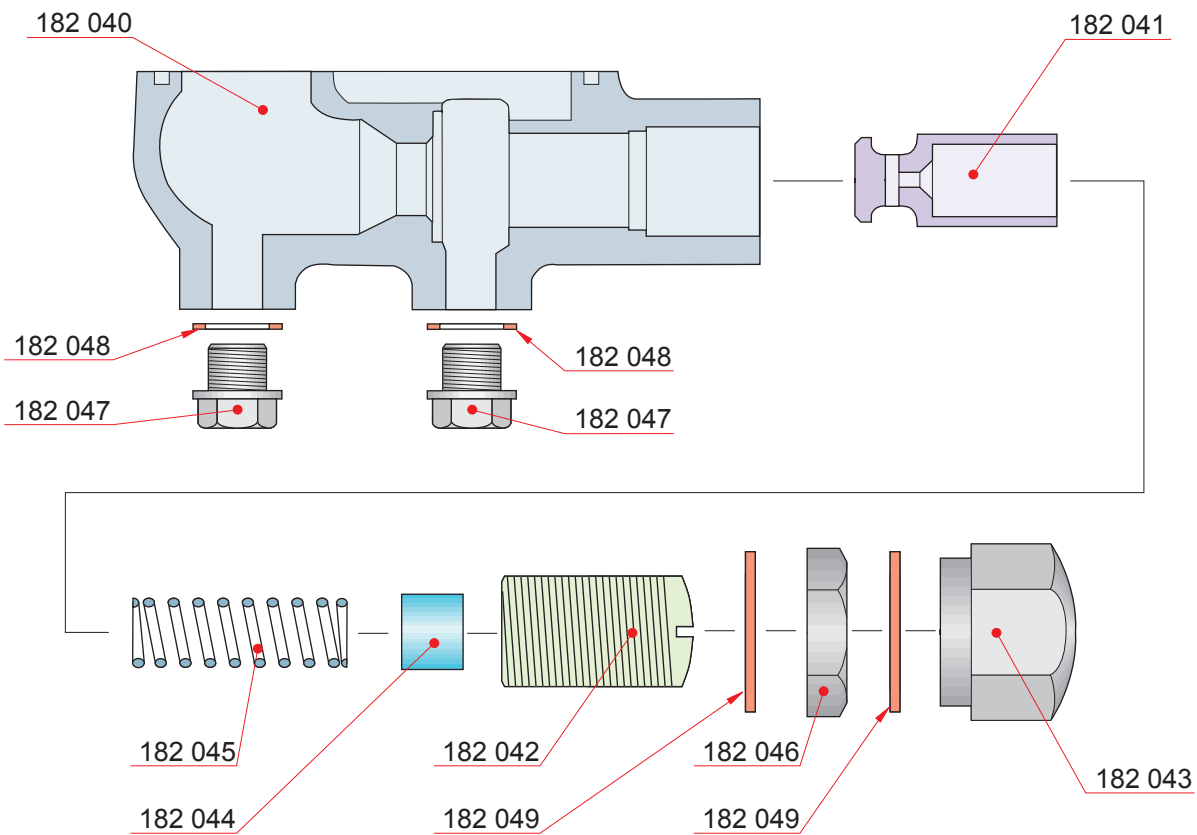


Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 028	Pressure control valve	1	1.4
182 040	End cover	1	-
182 041	Piston	1	-
182 042	Spindle	1	-
182 043	Nut	1	0.1
182 044	Sleeve	1	-
182 045	Spring	1	-
182 046	Nut	1	-
182 047	Plug	2	-
182 048	Sealing ring	2	-
182 049	Sealing ring	2	-

Edition: E

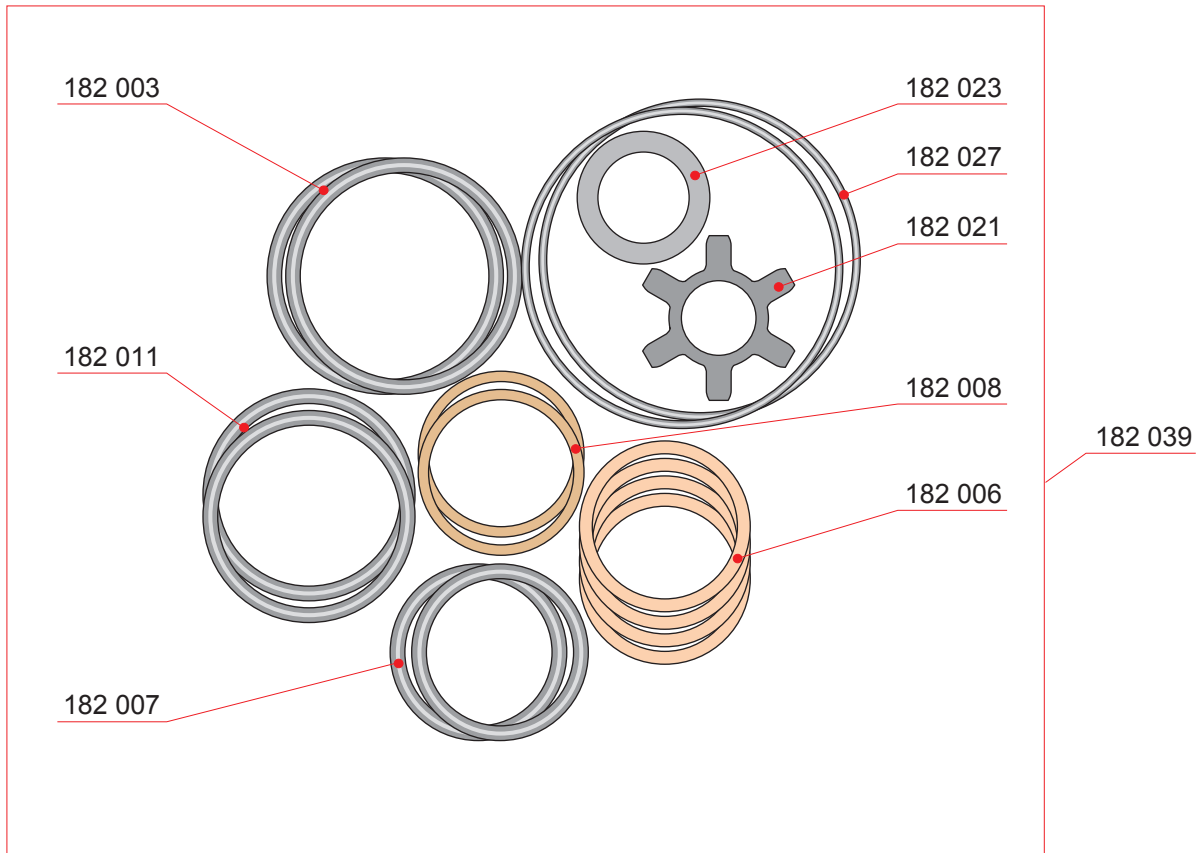
Page: 4(5)

Updated: 10.11.1997

Prelubricating oil pump

Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 040	End cover	1	-
182 041	Piston	1	-
182 042	Spindle	1	-
182 043	Nut	1	0.1
182 044	Sleeve	1	-
182 045	Spring	1	-
182 046	Nut	1	-
182 047	Plug	2	-
182 048	Sealing ring	2	-
182 049	Sealing ring	2	-

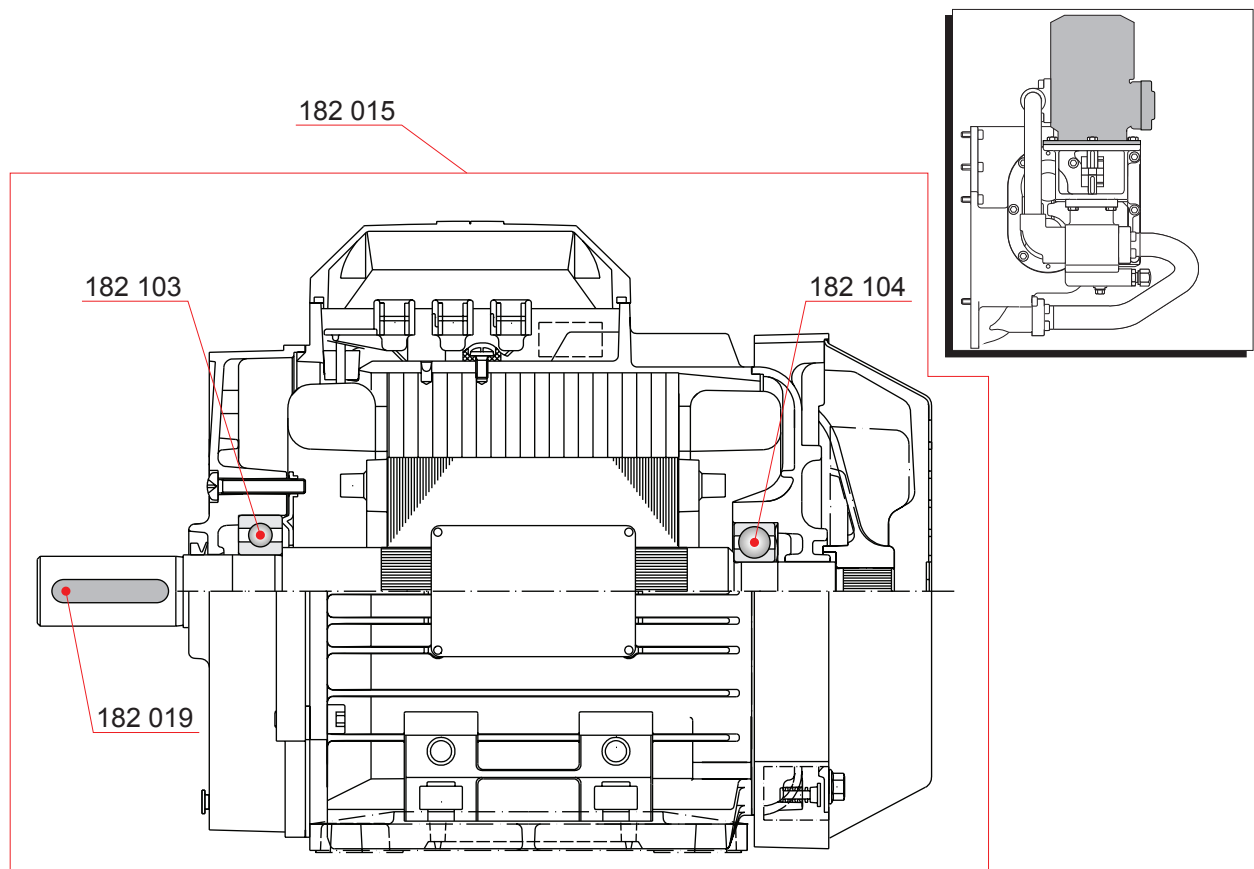
Prelubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 039	Sealing kit	1	-
182 003	O-ring	2	-
182 006	Support ring	4	-
182 007	O-ring	2	-
182 008	Guide ring	2	-
182 011	O-ring	2	-
182 021	Flexible coupling rubber	1	-
182 023	Seal	1	-
182 027	O-ring	2	-

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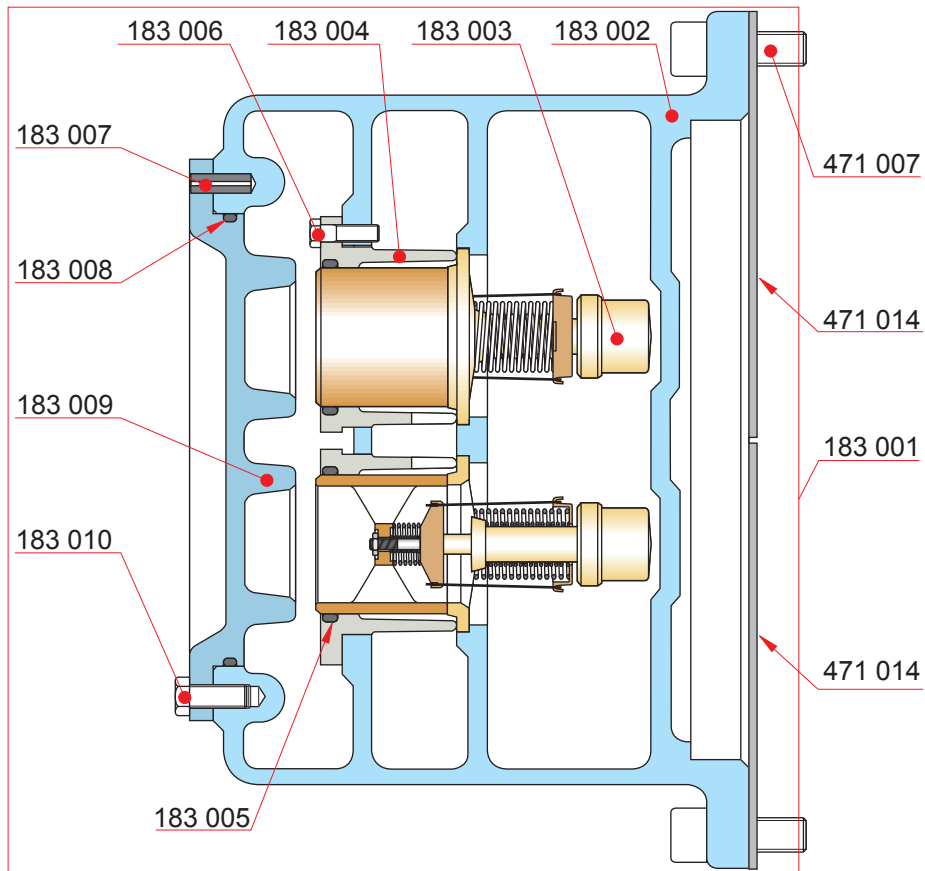
Electric motor for prelubricating oil pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
182 015	Electrical motor	1	21.0
182 019	Key	1	-
182 103	Ball bearing	1	0.4
182 104	Ball bearing	1	0.1

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Thermostatic valve for lubricating oil

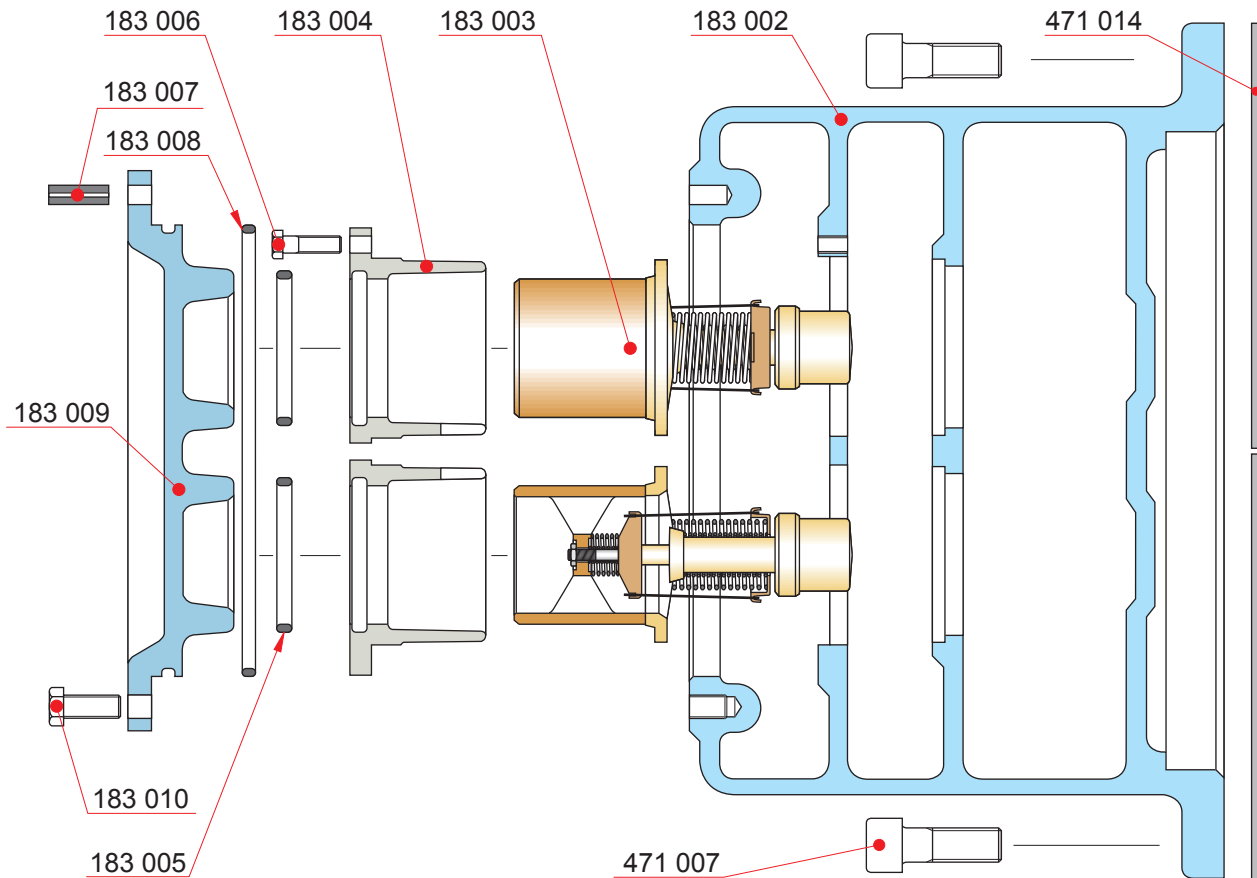


Part No.	Description	Qty [Pcs]	Wt. [Kg]
183 001	Thermostatic valve for lube oil	1	-
183 002	Housing	1	-
183 003	Thermostatic element	2	0.8
183 004	Holder	2	0.2
183 005	O-ring	2	-
183 006	Screw	4	-
183 007	Pin	1	-
183 008	O-ring	1	-
183 009	Cover	1	4.2
183 010	Screw	8	-
471 007	Screw	12	-
471 014	Gasket	4	0.1

Edition: B

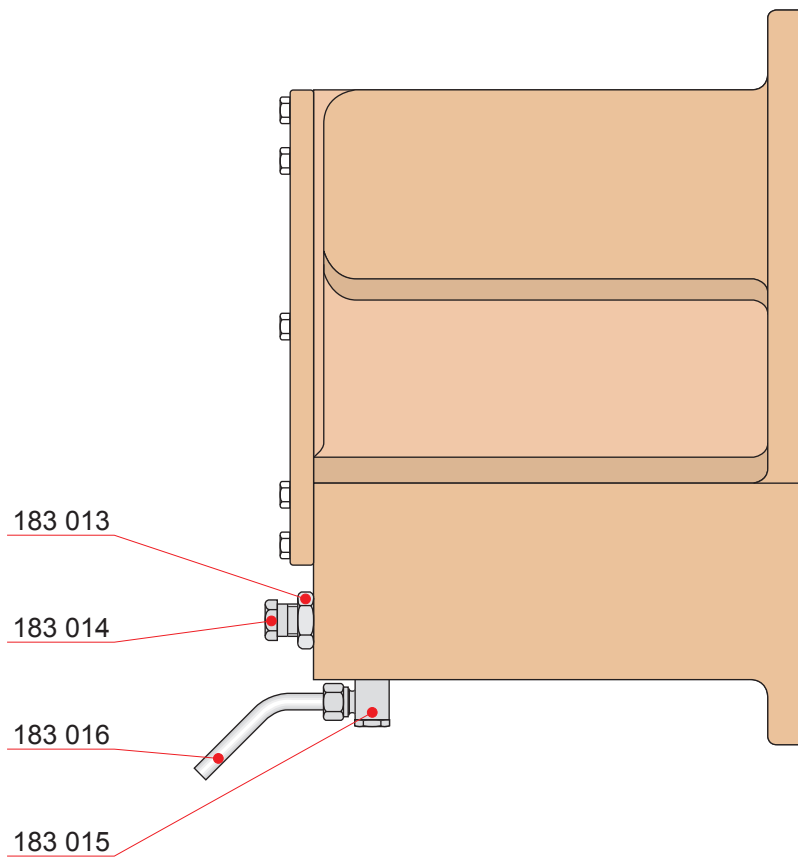
Page: 2(4)

Updated: 15.03.1996

Thermostatic valve for lubricating oil

Part No.	Description	Qty [Pcs]	Wt. [Kg]
183 002	Housing	1	-
183 003	Thermostatic element	2	0.8
183 004	Holder	2	0.2
183 005	O-ring	2	-
183 006	Screw	4	-
183 007	Pin	1	-
183 008	O-ring	1	-
183 009	Cover	1	4.2
183 010	Screw	8	-
471 007	Screw	12	-
471 014	Gasket	4	0.1

Thermostatic valve for lubricating oil



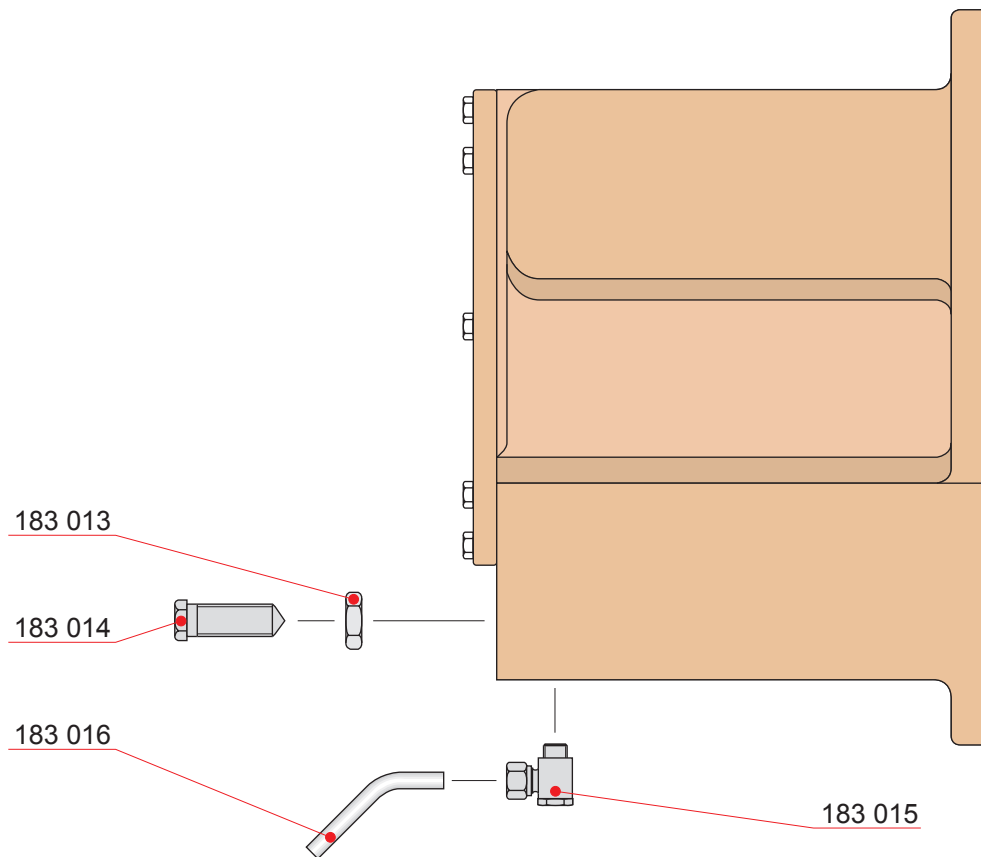
Part No.	Description	Qty [Pcs]	Wt. [Kg]
183 001	Thermostatic valve for lube oil	1	-
183 013	Nut	1	-
183 014	Spindle	1	-
183 015	Pipe union	1	-
183 016	Pipe	*	0.3

NOTE! *) L = 80mm

Edition: B

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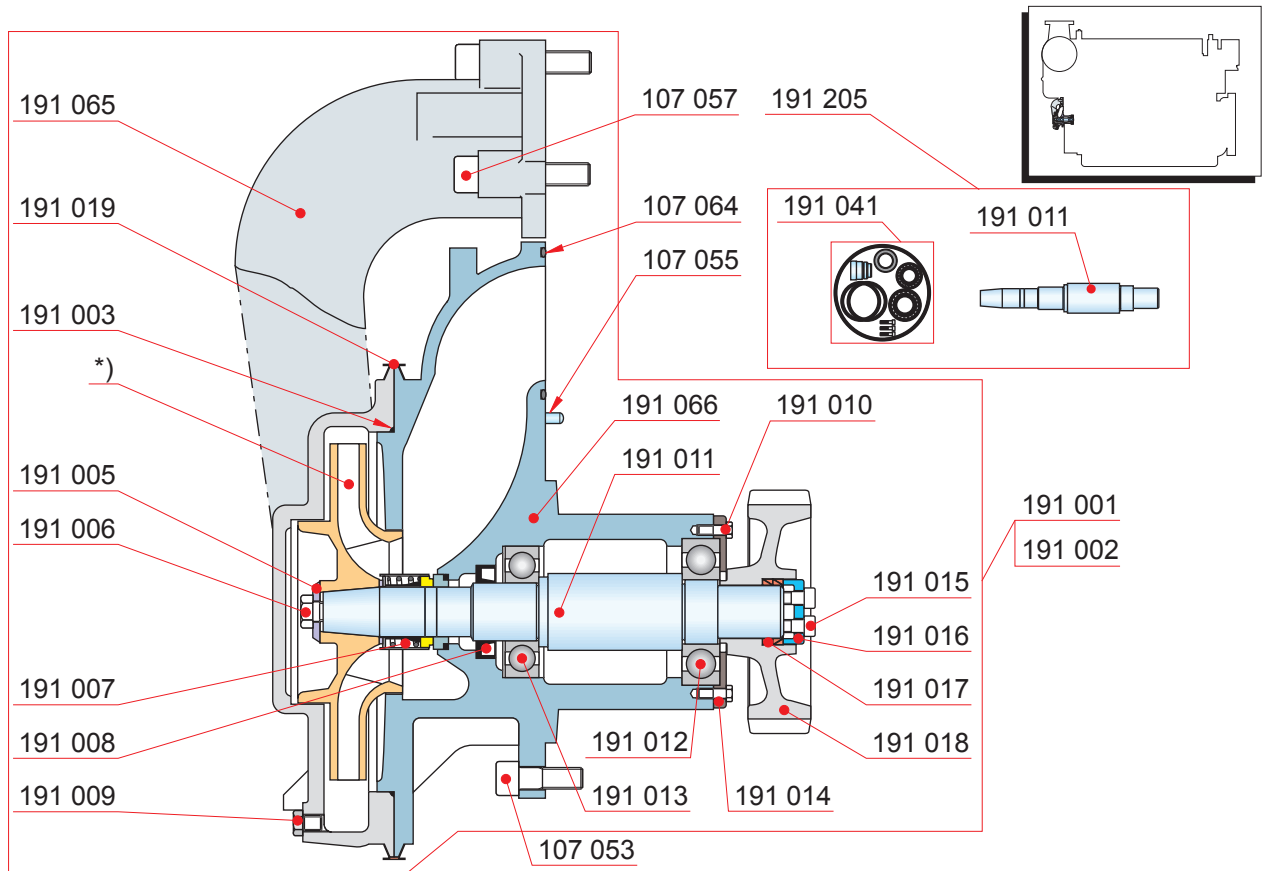
Updated: 15.03.1996

Thermostatic valve for lubricating oil

Part No.	Description	Qty [Pcs]	Wt. [Kg]
183 013	Nut	1	-
183 014	Spindle	1	-
183 015	Pipe union	1	-
183 016	Pipe	*	0.3

NOTE! *) L = 80mm

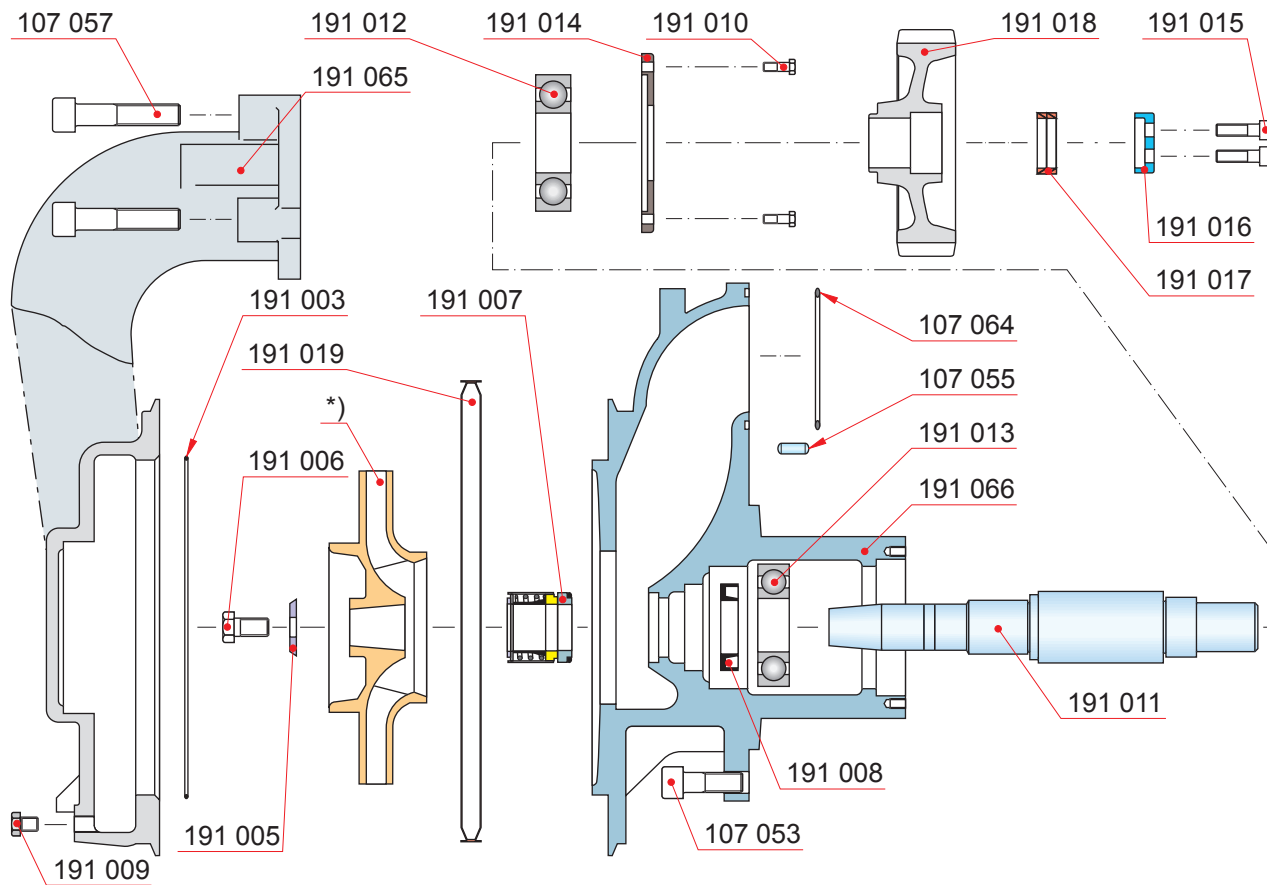
Water pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
191 001	HT water pump	1	-	191 011	Shaft (2)	1	2.5
191 002	LT water pump	1	-	191 041	Sealing kit for LT/HT-water pump	1	0.2
191 003	O-ring (1)	1	-				
191 005	Washer	1	-				
191 006	Screw	1	-	NOTE!	(1) Included in the spare part kit for LT/HT-water pump, it is not sold as separate spare part. See page 4 for more details.		
191 007	Shaft seal (1)	1	-				
191 008	Gamma ring (1)	1	-				
191 009	Plug	3	-				
191 010	Screw	4	-	NOTE!	(2) When ordering the pump shaft, please use SPN 191205 Pump shaft replacement set, the sealing kit (with needed seals for replacement) will be delivered with the shaft.		
191 011	Shaft (2)	1	2.5				
191 012	Bearing (1)	1	-				
191 013	Bearing (1)	1	-				
191 014	Bearing housing cover	1	0.3				
191 015	Screw (1)	3	-	NOTE!	(3) Included in the spare part kit for LT/HT-water pump. See page 4 for more details.		
191 016	Pressure plate	1	-				
191 017	Pair of friction rings	2	-				
191 018	Drive gear wheel	1	-	NOTE!	*) Impeller, see page 3.		
191 019	Clamp ring	1	0.5				
191 065	Volute casing	1	41.0				
191 066	Bearing housing	1	41.0				
107 053	Screw	5	-				
107 055	Pin	2	-				
107 057	Screw	3	-				
107 064	O-ring (3)	2	-				
191 205	Pump shaft replacement set (2)	1	0.1				

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 Updated: 13.01.2017

Water pump



Water pump

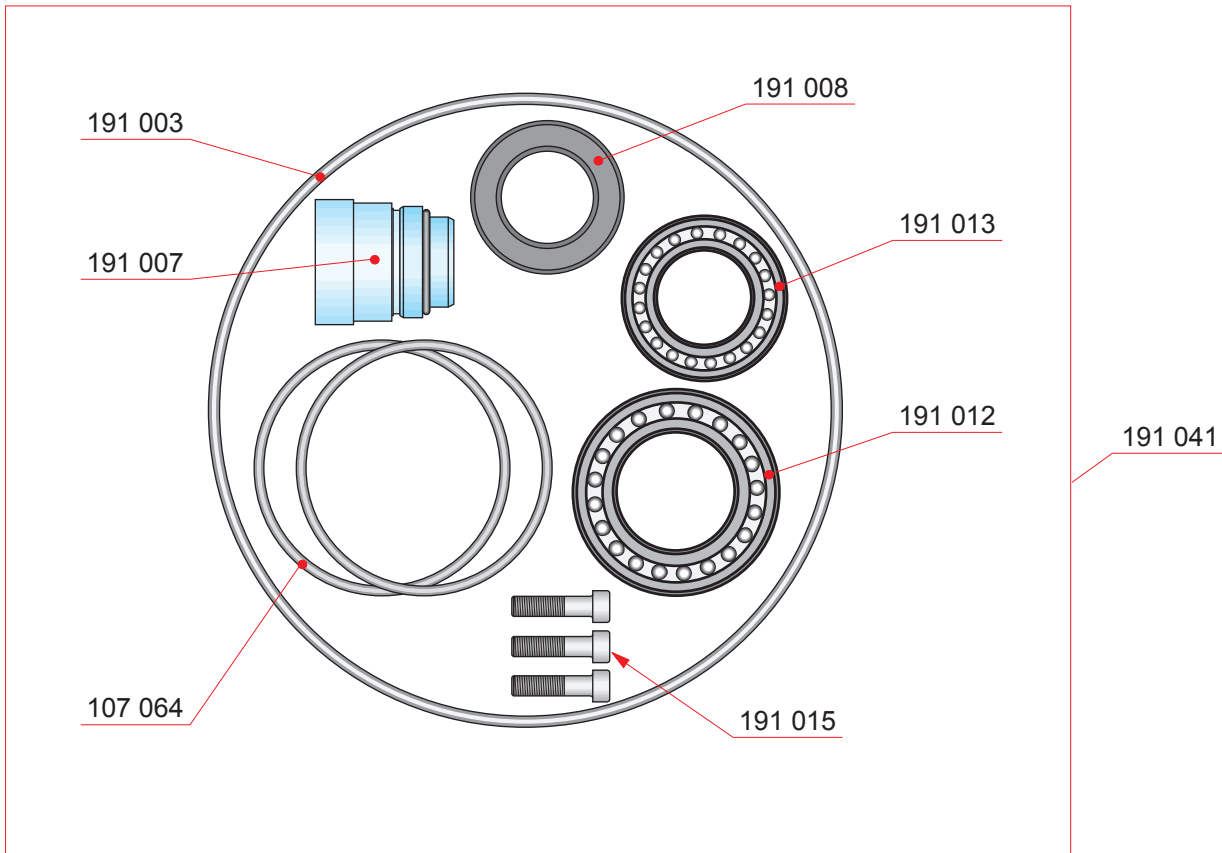
PART NUMBER SELECTION TABLE FOR IMPELLER

When ordering impeller, choose the right part number for the pump type (found from the type plate on the pump) according to the table below.

Part No	Pump type No	Ø/mm	Qty
191 022	WD-70L168A	168	1
191 023	WD-70L170A	170	1
191 024	WD-70L172A	172	1
191 025	WD-70L175A	175	1
191 026	WD-70L180A	180	1
191 027	WD-70L187A	187	1
191 028	WD-70L191A	191	1
191 029	WD-70L205B	205	1
191 030	WD-70R168A	168	1
191 031	WD-70R170A	170	1
191 032	WD-70R172A	172	1
191 033	WD-70R175A	175	1
191 034	WD-70R180A	180	1
191 035	WD-70R187A	187	1
191 036	WD-70R191A	191	1
191 037	WD-70R205B	205	1
191 039	WD-70R197B	197	1
191 040	WD-70L197A	197	1
191 040	WD-70L197B	197	1

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 Updated: 13.01.2017

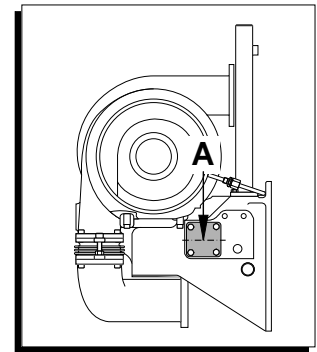
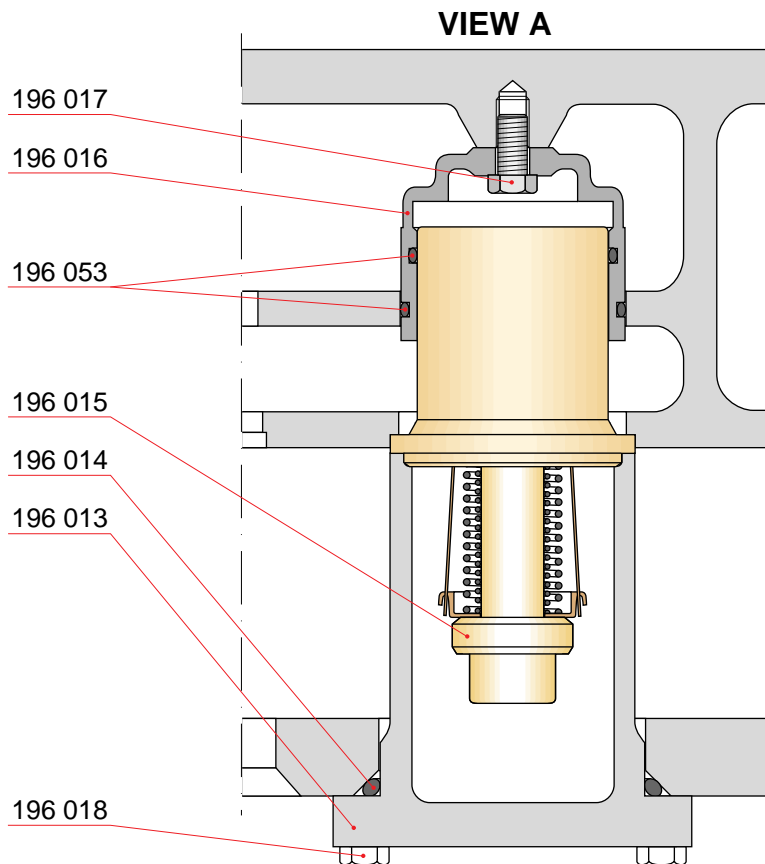
Water pump



Part No.	Description	Qty [Pcs]	Wt. [Kg]
191 041	Sealing kit for LT/HT-water pump	1	0.2
107 064	O-ring	2	-
191 003	O-ring (1)	1	-
191 007	Shaft seal (1)	1	-
191 008	Gamma ring (1)	1	-
191 012	Bearing (1)	1	-
191 013	Bearing (1)	1	-
191 015	Screw (1)	3	-

NOTE! (1) Included in a kit, not available separately.

Thermostatic valve for HT water

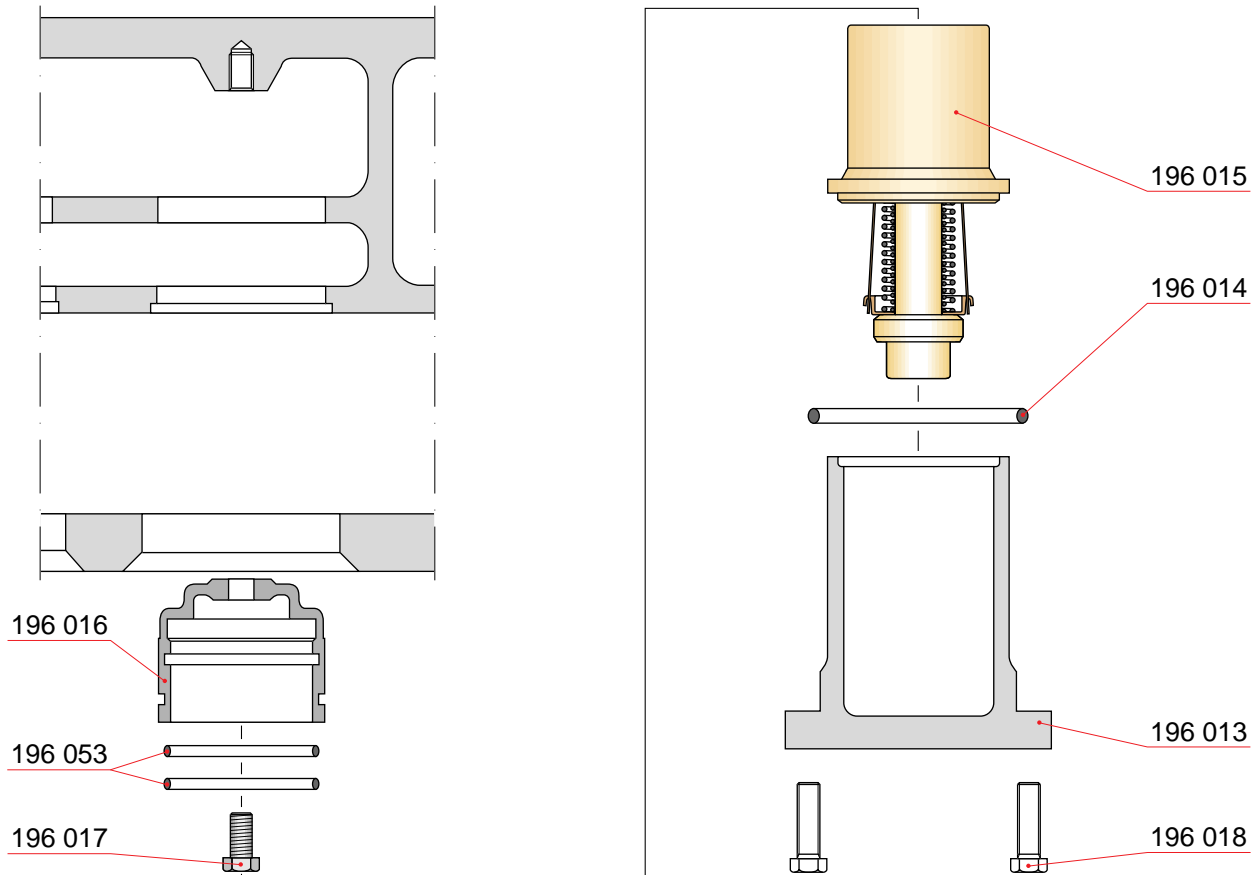


Part No.	Description	Qty [Pcs]	Wt. [Kg]
196 013	Bush	1	-
196 014	O-ring	1	-
196 015	Thermostatic element	1	-
196 016	Bush	1	-
196 017	Screw	1	-
196 018	Screw	4	-
196 053	O-ring	2	-

Edition: C

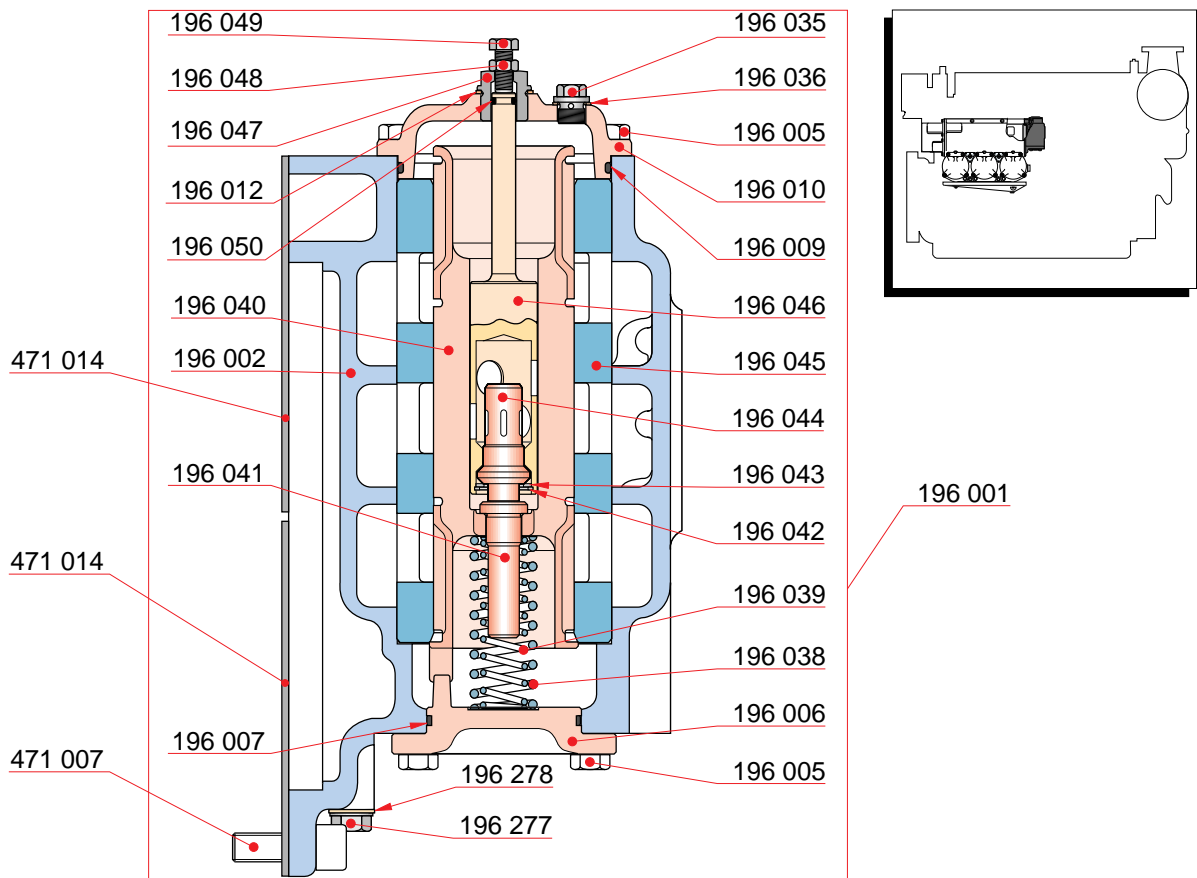
Page: 2(2)

Updated: 23.01.1999

Thermostatic valve for HT water

Part No.	Description	Qty [Pcs]	Wt. [Kg]
196 013	Bush	1	-
196 014	O-ring	1	-
196 015	Thermostatic element	1	-
196 016	Bush	1	-
196 017	Screw	1	-
196 018	Screw	4	-
196 053	O-ring	2	-

Thermostatic valve for LT water

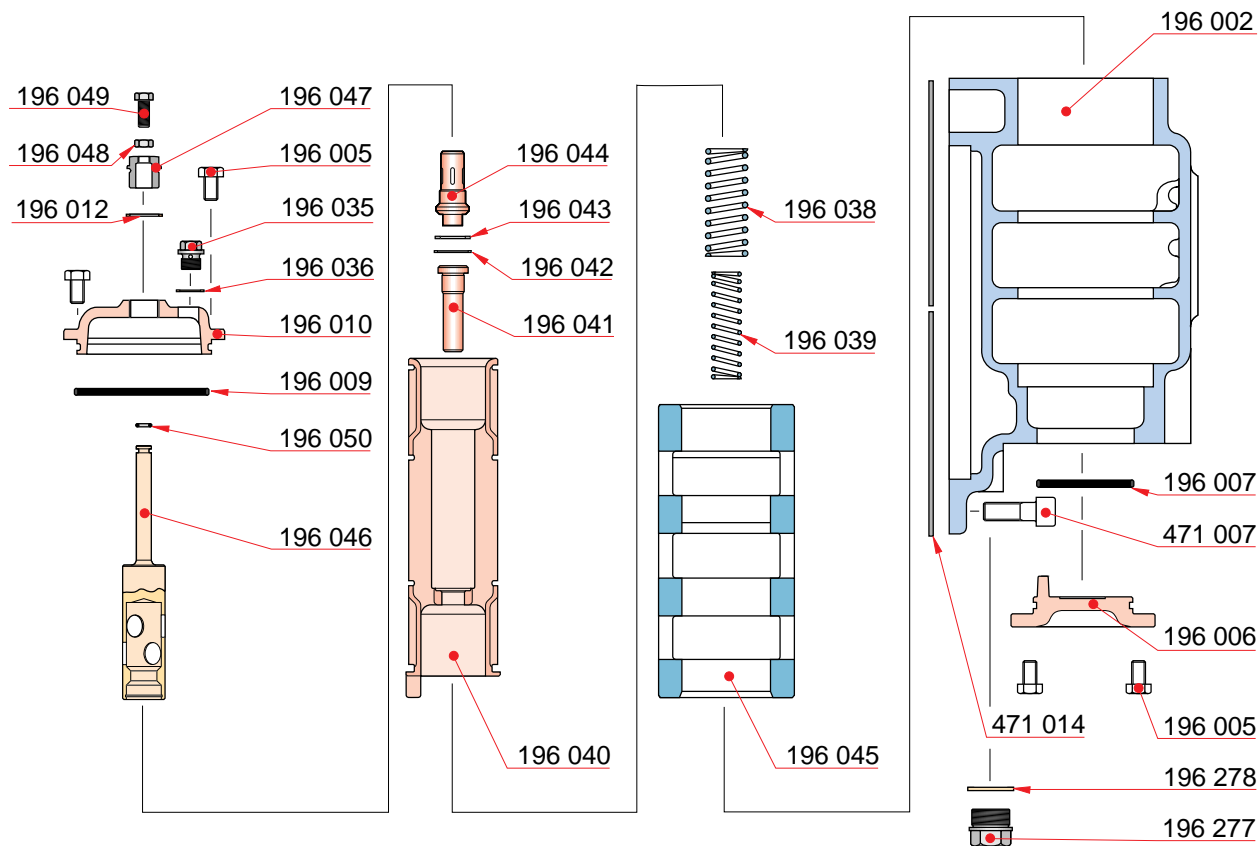


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
196 001	Thermostatic valve for LT	1	35.0	471 014	Gasket	4	-
196 002	Housing	1	40.0				
196 005	Screw	8	-				
196 006	Flange	1	1.0				
196 007	O-ring	1	-				
196 009	O-ring	1	-				
196 010	End flange	1	1.1				
196 012	Sealing ring	1	-				
196 035	Vent screw	1	-				
196 036	Sealing ring	1	-				
196 038	Compression spring	1	-				
196 039	Compression spring	1	-				
196 040	Control piston	1	1.4				
196 041	Pin	1	0.1				
196 042	Retaining ring	1	-				
196 043	Support ring	1	-				
196 044	Thermostatic element	1	0.3				
196 045	Control cylinder	1	5.8				
196 046	Element holder	1	0.5				
196 047	Plug	1	-				
196 048	Locking nut	1	-				
196 049	Screw	1	-				
196 050	O-ring	1	-				
196 277	Plug	1	-				
196 278	Sealing ring	1	-				
471 007	Screw	12	-				

Edition: C

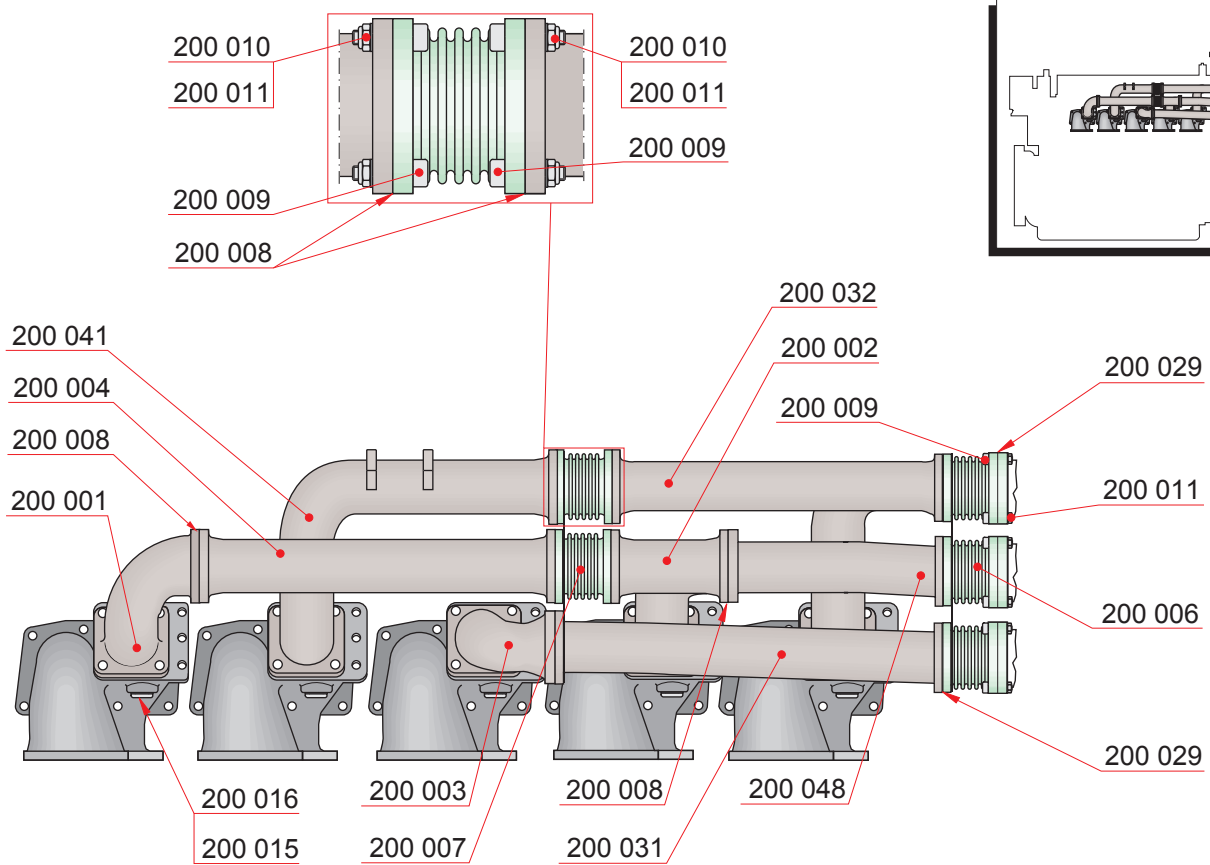
Page: 2(2)

Updated: 09.04.2000

Thermostatic valve for LT water

Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
196 002	Housing	1	40.0	196 278	Sealing ring	1	-
196 005	Screw	8	-	471 007	Screw	12	-
196 006	Flange	1	1.0	471 014	Gasket	4	-
196 007	O-ring	1	-				
196 009	O-ring	1	-				
196 010	End flange	1	1.1				
196 012	Sealing ring	1	-				
196 035	Vent screw	1	-				
196 036	Sealing ring	1	-				
196 038	Compression spring	1	-				
196 039	Compression spring	1	-				
196 040	Control piston	1	1.4				
196 041	Pin	1	0.1				
196 042	Retaining ring	1	-				
196 043	Support ring	1	-				
196 044	Thermostatic element	1	0.3				
196 045	Control cylinder	1	5.8				
196 046	Element holder	1	0.5				
196 047	Plug	1	-				
196 048	Locking nut	1	-				
196 049	Screw	1	-				
196 050	O-ring	1	-				
196 277	Plug	1	-				

Exhaust manifold 5L20

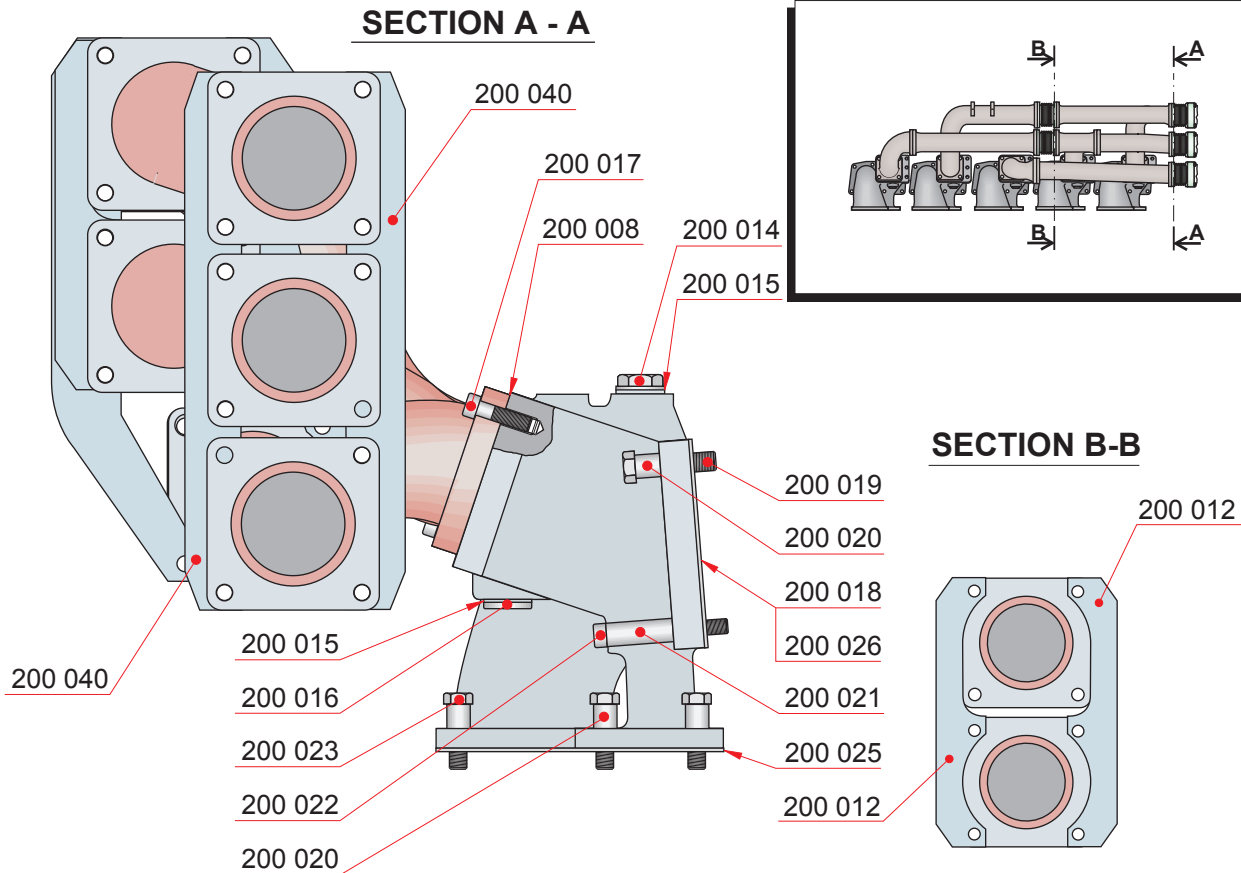


Part No.	Description	Qty [Pcs]	Wt. [Kg]
200001	Exhaust pipe	1	-
200002	Exhaust pipe	1	-
200003	Exhaust pipe	1	-
200004	Exhaust pipe	1	-
200006	Bellows	3	-
200007	Bellows	2	-
200008	Sealing ring	5	-
200009	Screw	52	-
200010	Washer	40	-
200011	Nut	52	-
200015	Sealing ring	10	-
200016	Plug	5	-
200026	Rivet	10	-
200029	Gasket	6	-
200031	Exhaust pipe	1	-
200032	Exhaust pipe	1	-
200041	Exhaust pipe	1	-
200048	Exhaust pipe	1	-

Edition: C

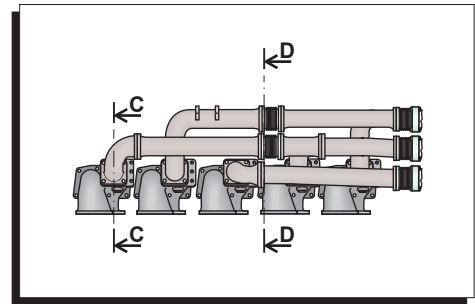
Page: 2(3)

Updated: 02.11.1999

Exhaust manifold 5L20

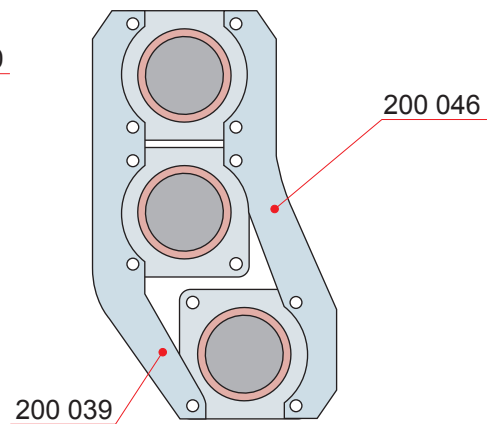
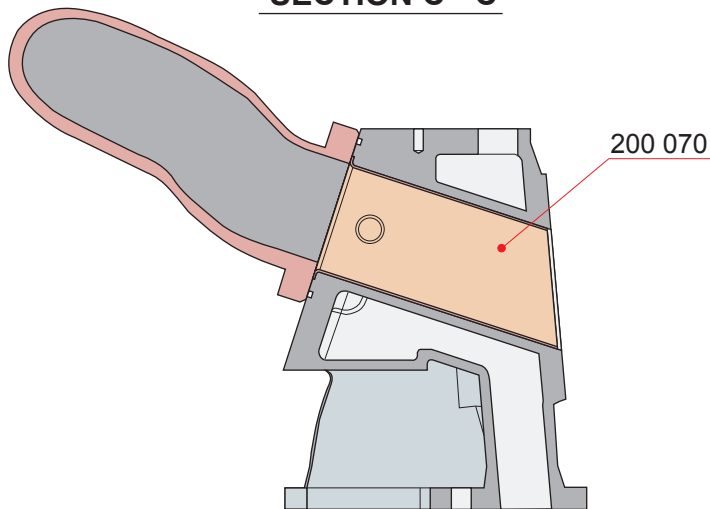
Part No.	Description	Qty [Pcs]	Wt. [Kg]
200008	Sealing ring	12	-
200012	Support	6	-
200014	Adapter	5	-
200015	Sealing ring	10	-
200016	Plug	5	-
200017	Screw	20	-
200018	Gasket	5	-
200019	Screw	15	-
200020	Distance piece	45	-
200021	Distance piece	10	-
200022	Screw	15	-
200023	Screw	30	-
200025	Gasket	5	-
200026	Rivet	3	-
200029	Gasket	6	-
200040	Support	6	-

Exhaust manifold 5L20



SECTION C - C

SECTION D - D

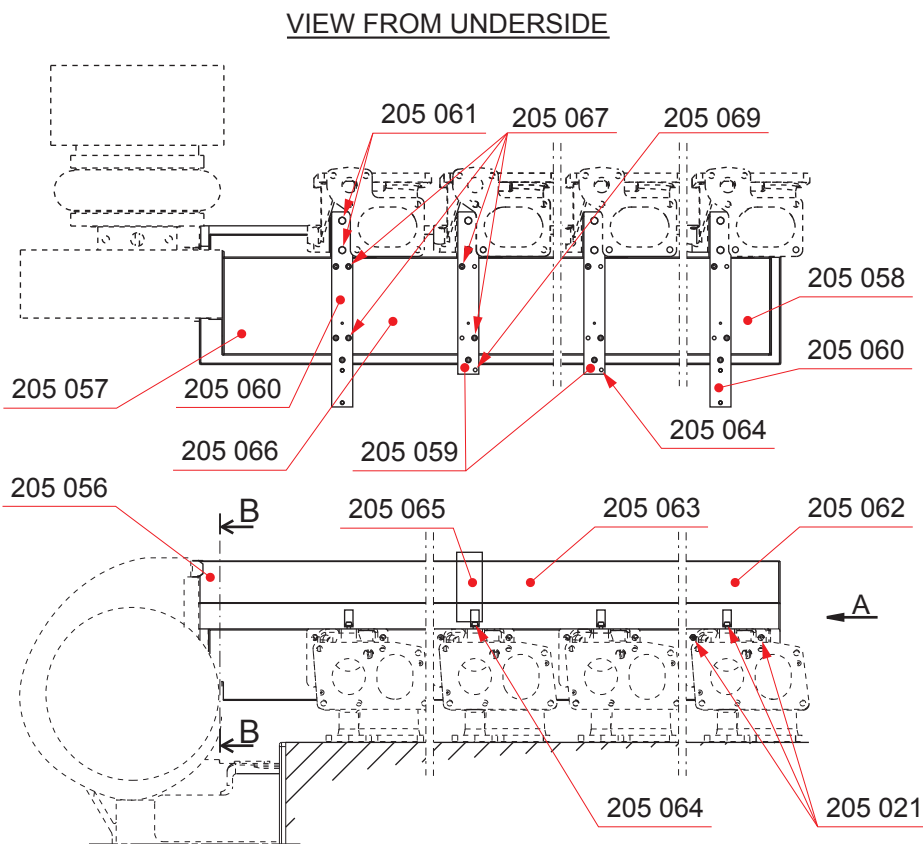


Part No.	Description	Qty [Pcs]	Wt. [Kg]
200039	Support	3	-
200046	Support	3	-
200070	Sleeve (1)	5	-

NOTE! (1) Only in HF-engine.

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Insulation box for exhaust manifold



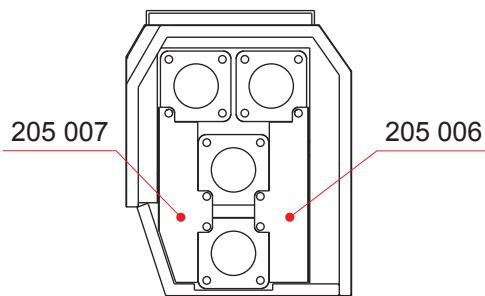
Part No.	Description	Qty [Pcs]	Wt. [Kg]
205 021	Screw	*	-
205 056	Upper protecting panel	1	-
205 057	Lower protecting panel	1	-
205 058	Lower protecting panel	1	-
205 059	Bracket	*	-
205 060	Bracket	*	-
205 061	Screw	*	-
205 062	Upper protecting panel	*	-
205 063	Upper protecting panel	*	-
205 064	Screw	*	-
205 065	Cover profile	*	-
205 066	Lower protecting panel	*	-
205 067	Screw	*	-
205 069	Screw	*	-

NOTE! * See page 3.

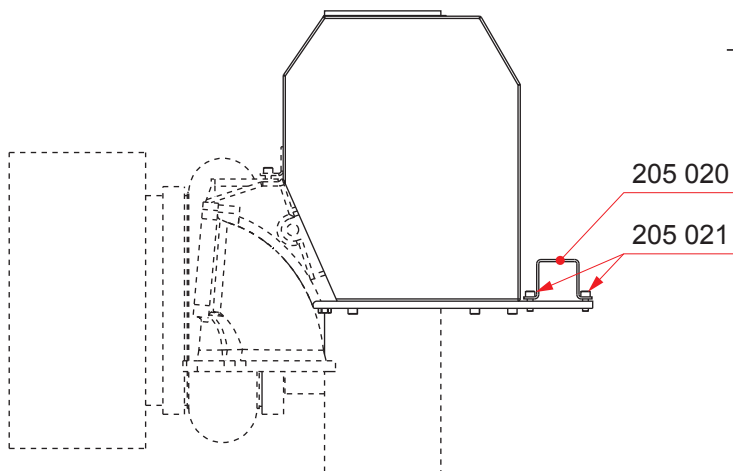
Edition: F
Page: 2(3)
Updated: 27.08.2004

Insulation box for exhaust manifold

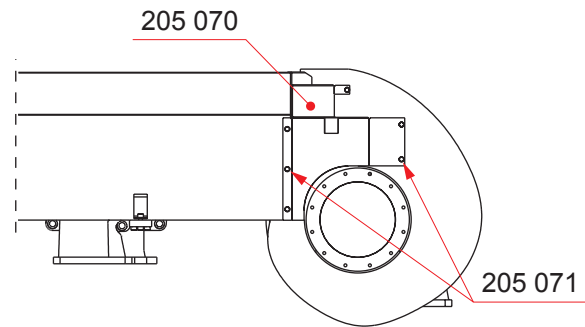
Section B - B



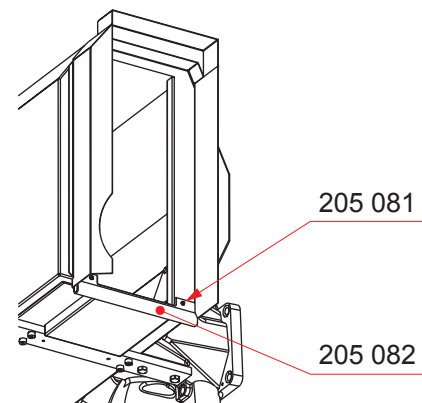
View A



Depending on installation.



Depending on installation.



Part No.	Description	Qty [Pcs]	Wt. [Kg]
205 006	Protecting shield (1)	1	-
205 007	Protecting shield (1)	1	-
205 020	Fastening piece	*	0.1
205 021	Screw	*	-
205 070	Plate (2)	1	-
205 071	Screw (2)	6	-
205 081	Screw (2)	2	-
205 082	Insulation pad (2)	1	-

NOTE! (1) mounted at 2-pulse systems.

NOTE! (2) depending on installation.

NOTE! * See page 3.

Insulation box for exhaust manifold

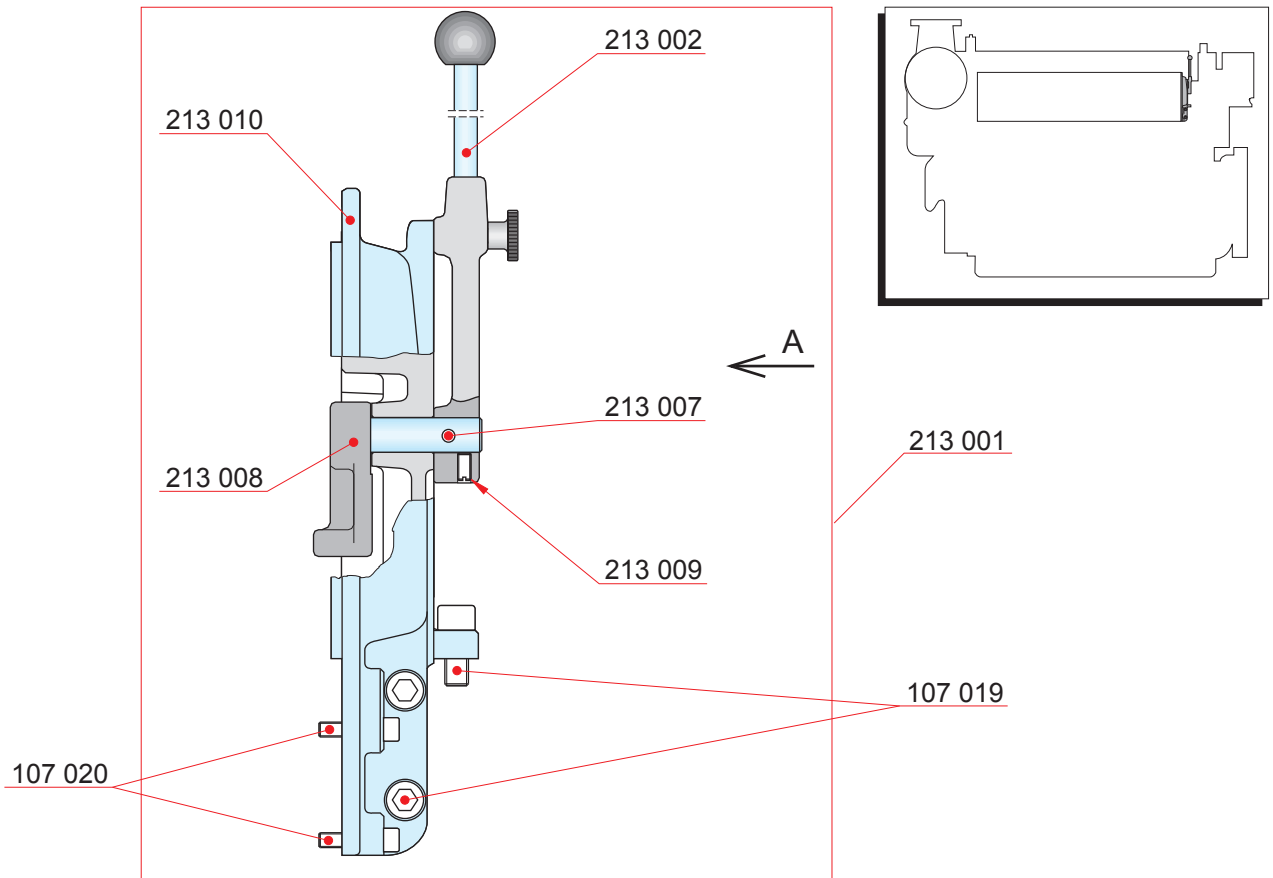
Quantity according to number of cylinders

Part No	Pieces				
	4L20	5L20	6L20	8L20	9L20
205 020	4	3	4	4	4
205 021	18	20	25	30	33
205 059	2	2	2	4	5
205 060	2	3	4	4	4
205 061	12	10	12	12*/16	18
205 062	-	1	-	1	1
205 063	-	1	1	1	1
205 064	-	1	1	2*/4	4
205 065	-	1	1	2	2
205 066	-	-	-	-	1
205 067	12	16	20	24	29
205 069	-	-	-	1	-

*) 2-pulse systems

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Stop lever and end cover

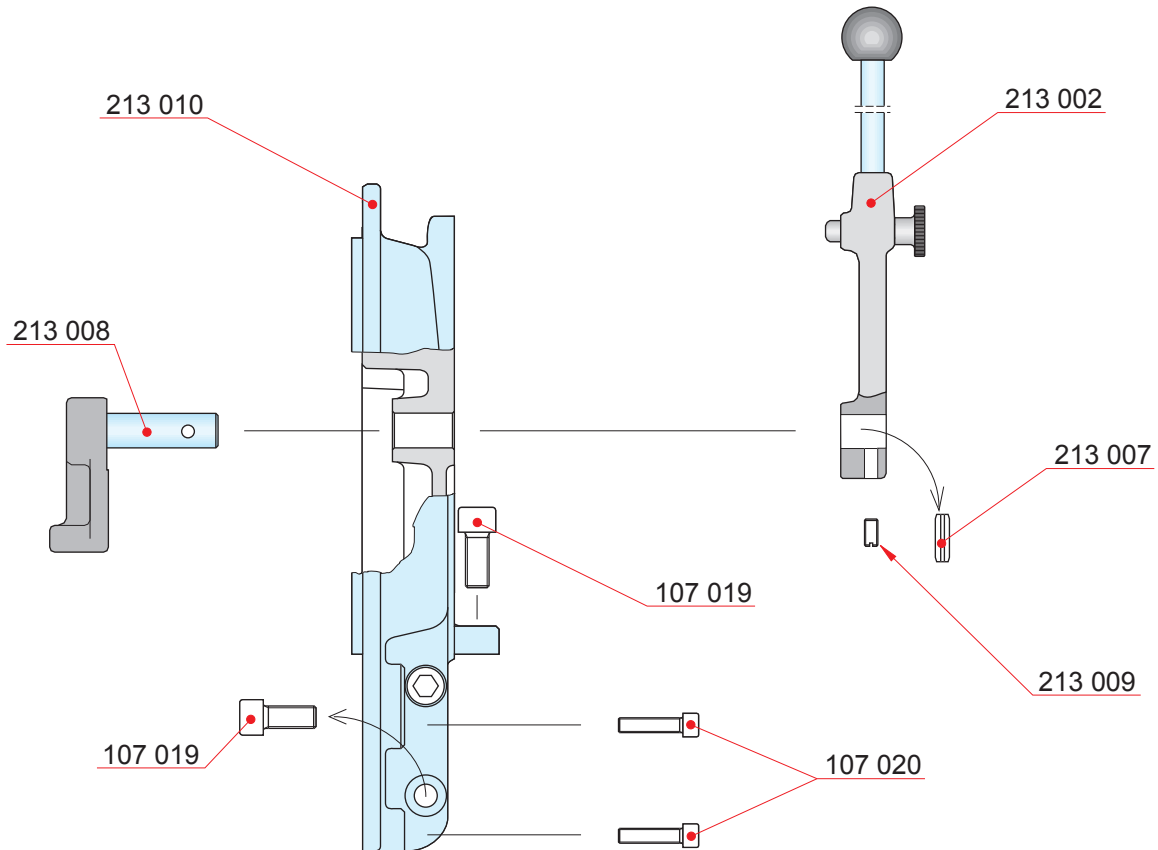


Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 019	Screw	6	-
107 020	Screw	2	-
213 001	Stop lever and end cover	1	-
213 002	Stop lever	1	1.3
213 007	Pin	1	-
213 008	Lever	1	0.5
213 009	Grub screw	1	-
213 010	End cover	1	17.2

Edition: A

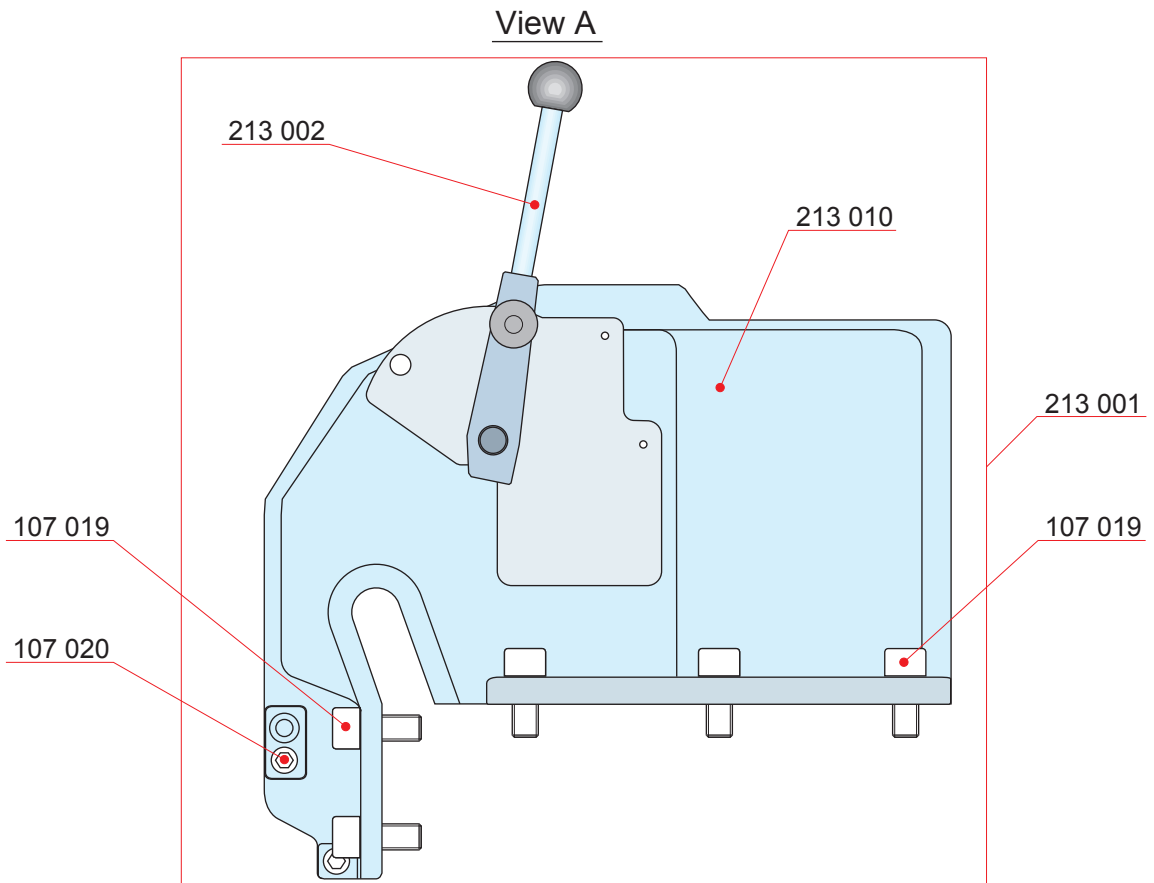
Page: 2(3)

Updated: 26.10.1998

Stop lever and end cover

Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 019	Screw	6	-
107 020	Screw	2	-
213 002	Stop lever	1	1.3
213 007	Pin	1	-
213 008	Lever	1	0.5
213 009	Grub screw	1	-
213 010	End cover	1	17.2

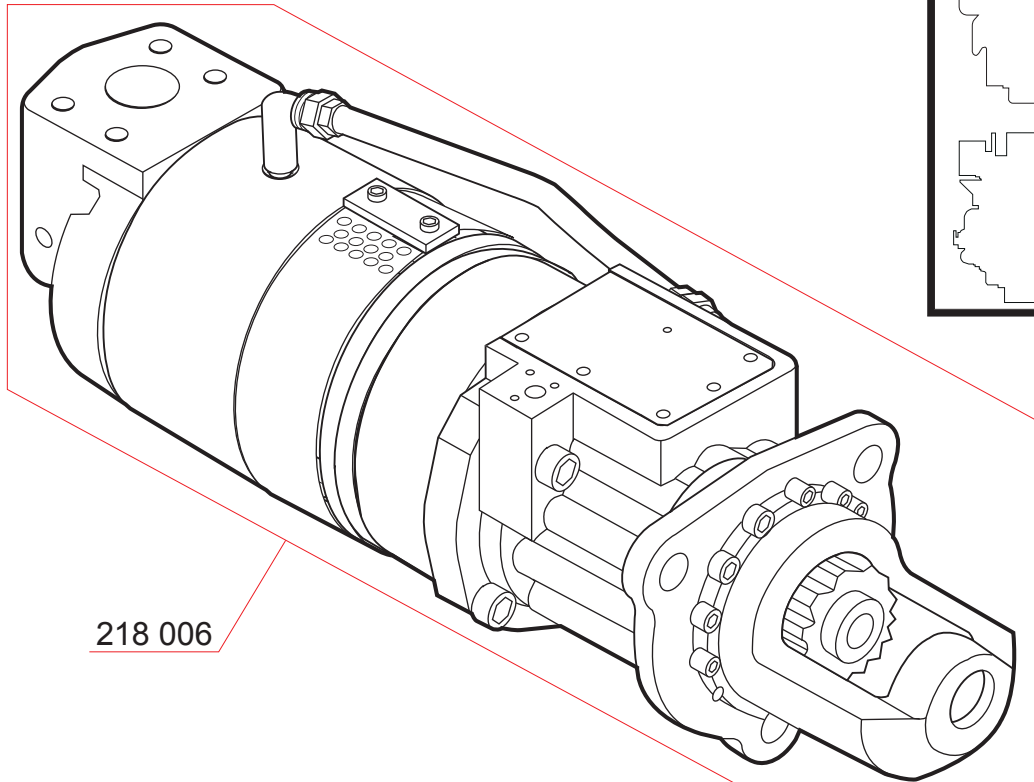
Stop lever and end cover



Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 019	Screw	6	-
107 020	Screw	2	-
213 001	Stop lever and end cover	1	-
213 002	Stop lever	1	1.3
213 010	End cover	1	17.2

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Air starter

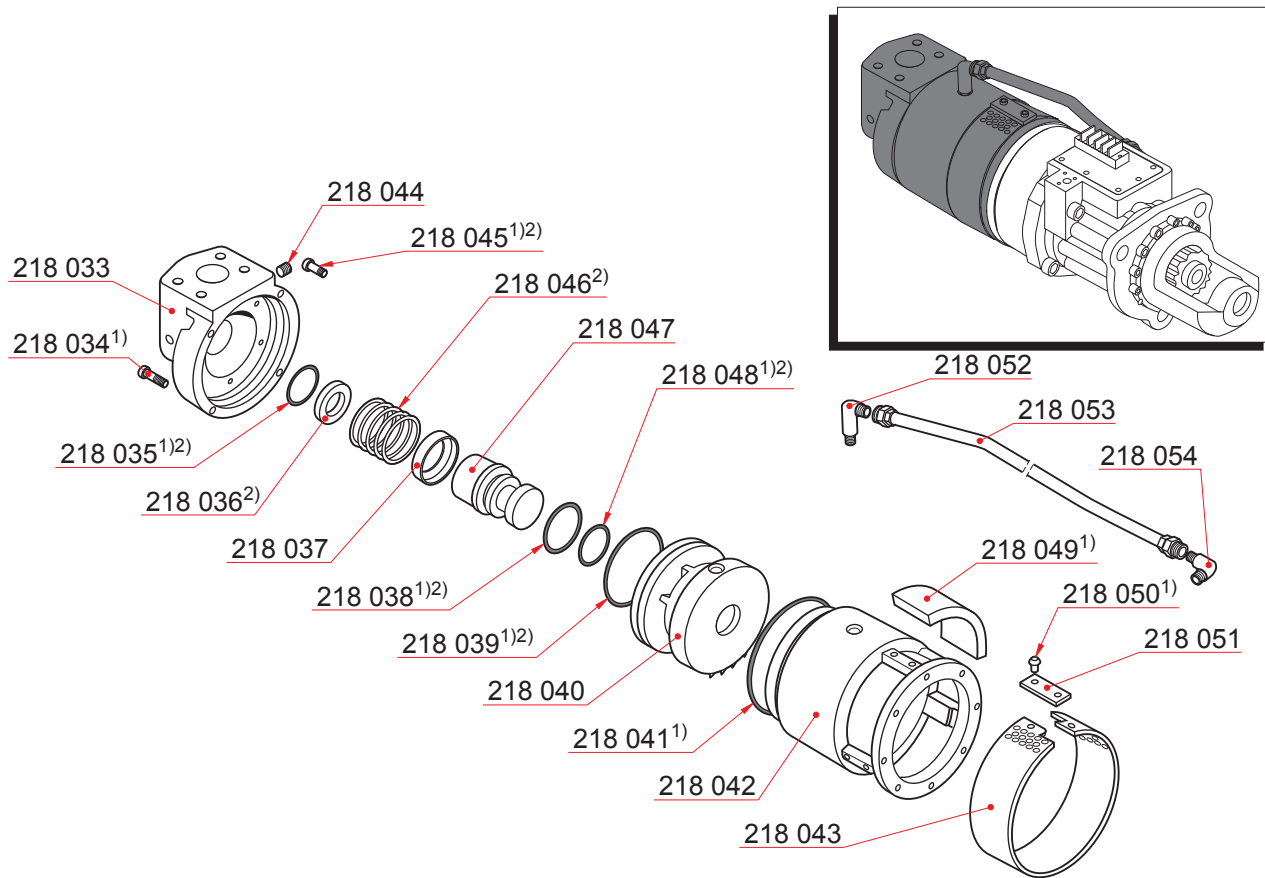


Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 006	Starting motor	1	19.5

NOTE! (1) Included in the overhaul kit 218 110.

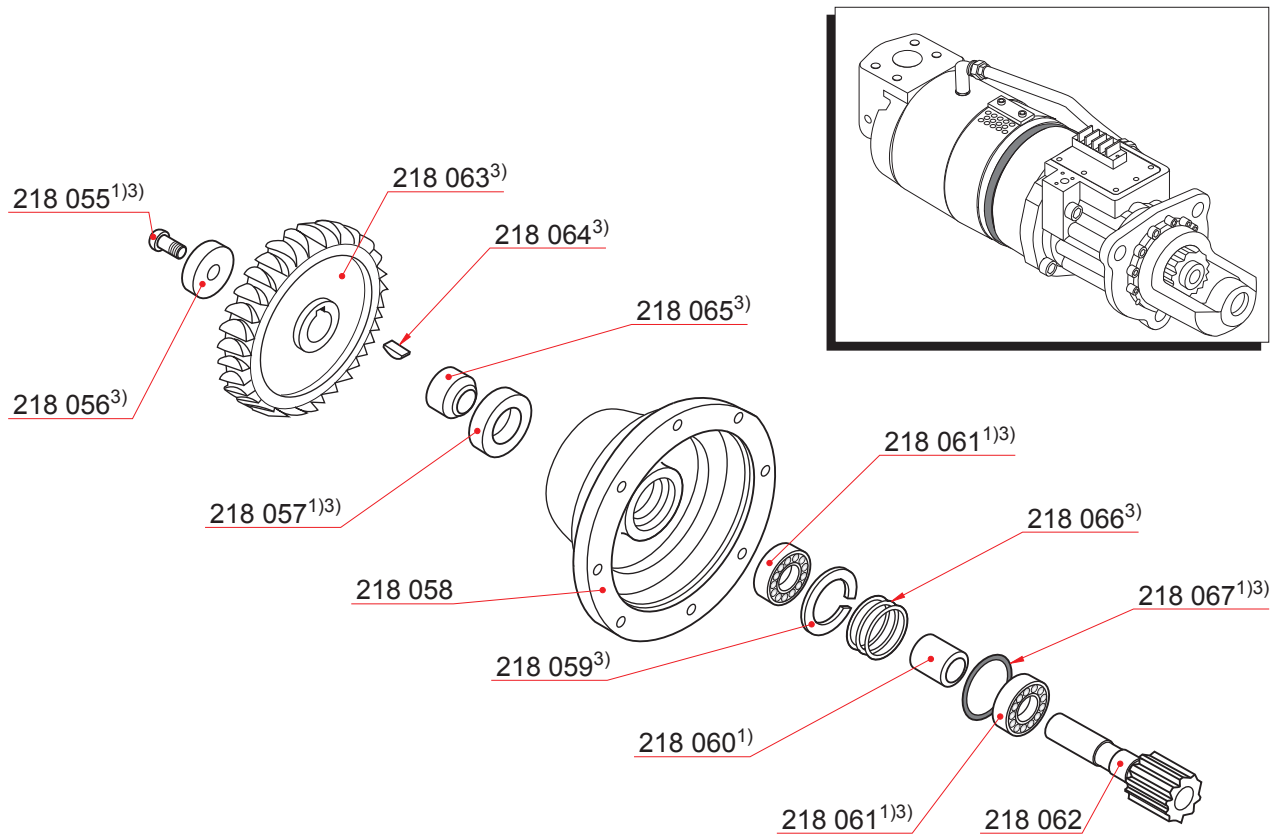
Edition: D
Page: 2(5)
Updated: 28.12.2000

Air starter



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 006	Starting motor	1	19.5	NOTE!	(1) Included in the overhaul kit 218 110.		
218 033	Inlet housing	1	1.3				
218 034	Screw (1)	4	-	NOTE!	(2) included in the inlet assembly repair kit 218 126.		
218 035	O-ring (1) (2)	1	-				
218 036	Shock dampener (2)	1	-	NOTE!	Parts included in a kit are not delivered separately!		
218 037	O-ring cap	1	-				
218 038	O-ring (1) (2)	1	-				
218 039	O-ring (1) (2)	1	-				
218 040	Nozzle / Valve seat	1	0.8				
218 041	O-ring (1)	1	-				
218 042	Containment	1	1.7				
218 043	Muffler retainer	1	-				
218 044	Plug	1	-				
218 045	Screw (1) (2)	5	-				
218 046	Compression ring (2)	1	-				
218 047	Spool valve	1	0.1				
218 048	O-ring (1) (2)	1	-				
218 049	Muffler element (1)	3	-				
218 050	Screw (1)	6	0.4				
218 051	Muffler retainer plate	3	-				
218 052	Pipe union	1	-				
218 053	Hose	1	-				
218 054	Pipe union	3	-				
218 110	Overhaul kit	1	1.8				
218 126	Repair kit for inlet assembly	1	0.2				

Air starter



Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 006	Starting motor	1	19.5
218 055	Screw (1) (3)	1	-
218 056	Rotor washer (3)	1	-
218 057	Lip seal (1) (3)	1	-
218 058	Turbine housing, LH	1	0.8
218 059	Retainer ring (3)	1	-
218 060	Bearing spacer (1)	1	-
218 061	Bearing (1) (3)	2	-
218 062	Turbine shaft	1	0.2
218 063	Turbine rotor (3)	1	-
218 064	Key (3)	1	-
218 065	Seal spacer (3)	1	-
218 066	Compression spring (3)	1	-
218 067	O-ring (1) (3)	1	-
218 110	Overhaul kit	1	1.8
218 125	Repair kit for turbine assembly	1	0.2

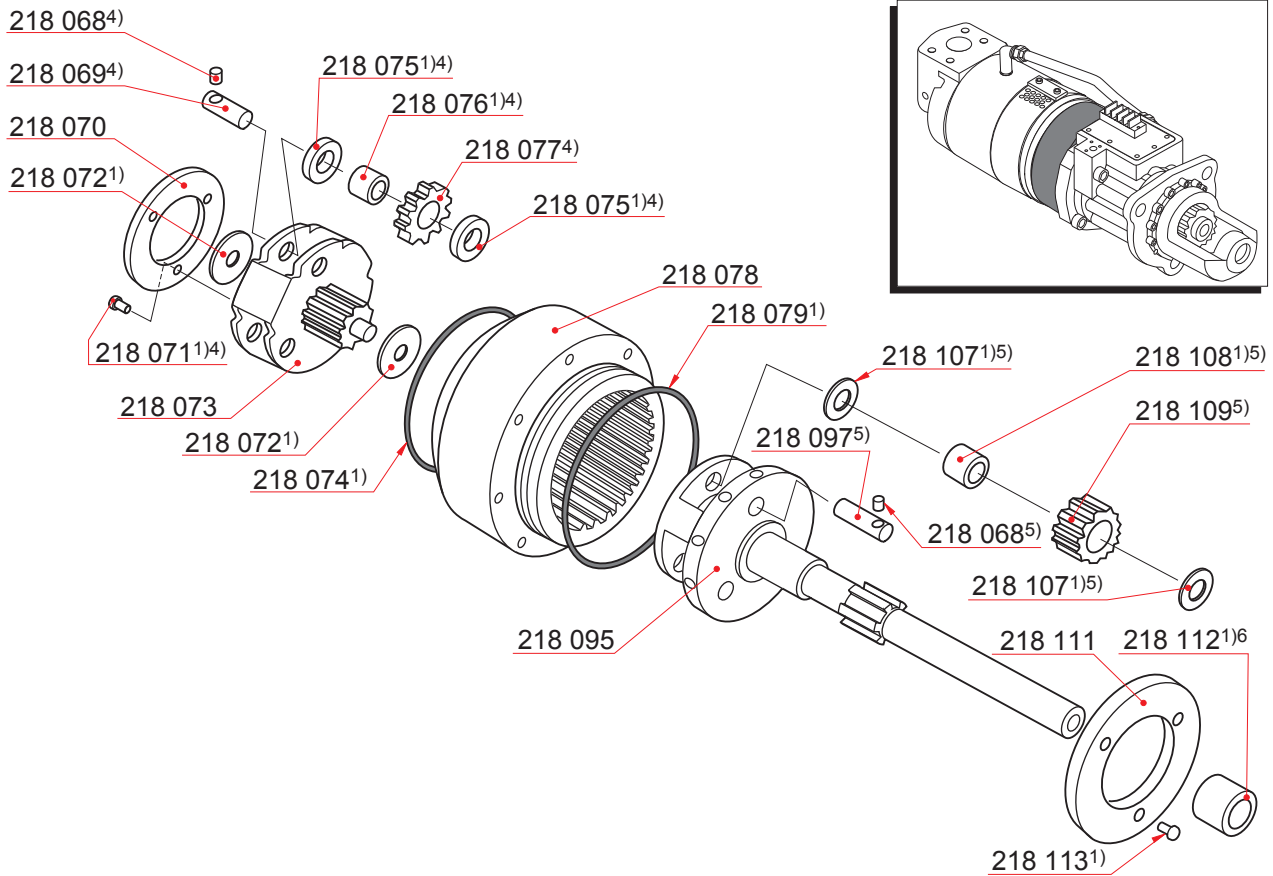
NOTE! (1) included in the overhaul kit 218 110.

NOTE! (3) included in the turbine assembly kit 218 125.

NOTE! Parts included in a kit are not delivered separately!

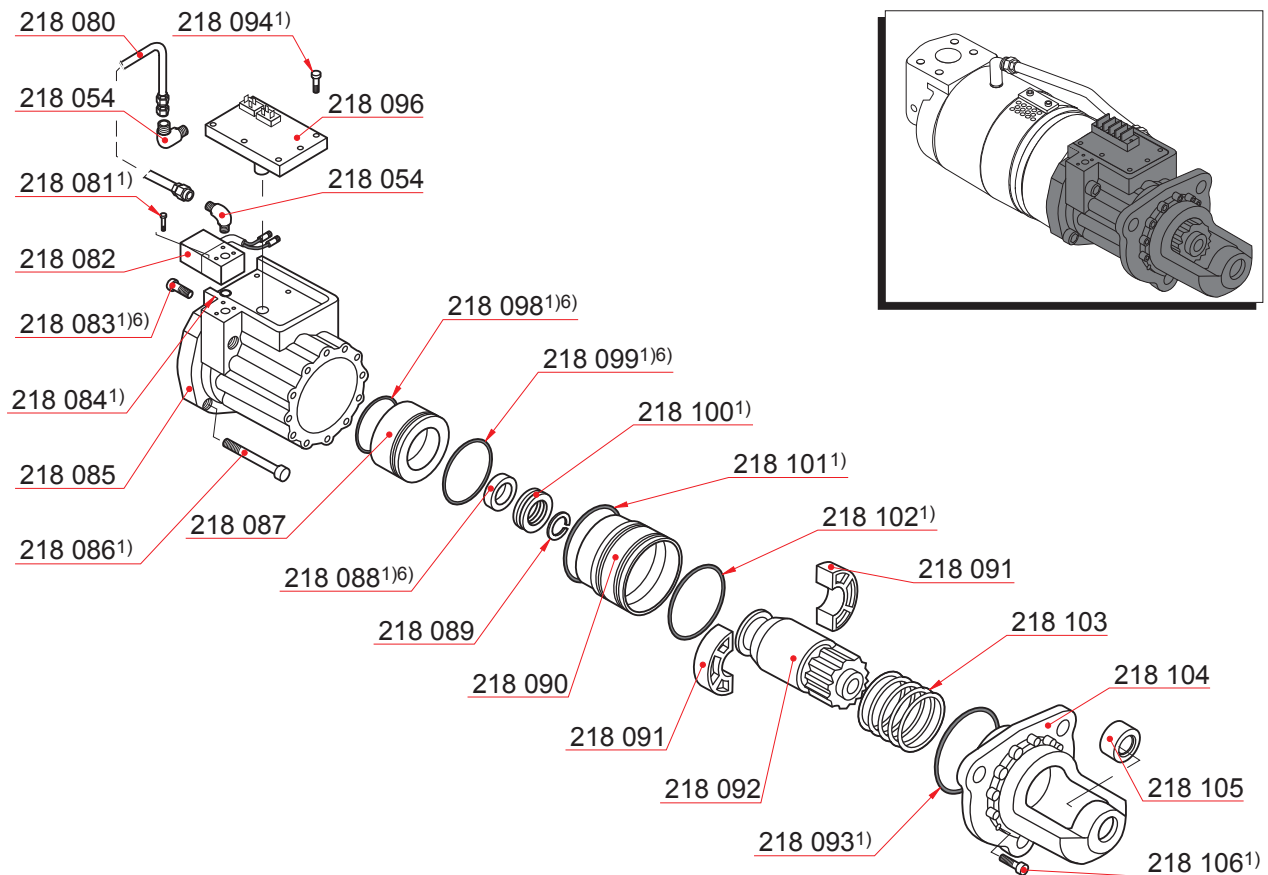
Edition: D
Page: 4(5)
Updated: 28.12.2000

Air starter



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 006	Starting motor	1	19.5	218 128	Repair kit for stage 1 assembly	1	0.3
218 068	Roll pin (4) (5)	3	-	218 129	Repair kit for stage 2 assembly	1	0.4
218 069	Planet gear shaft (4)	3	-				
218 070	Gear shaft retention plate	1	-				
218 071	Screw (1) (4)	3	-	NOTE!	(1) included in the overhaul kit 218 110.		
218 072	Gear shim (1)	2	-				
218 073	Gear carrier	1	0.4	NOTE!	(4) included in the stage 1 assembly repair kit 218 128.		
218 074	O-ring (1)	1	-				
218 075	Grease cup (1) (4)	6	-	NOTE!	(5) included in the stage 2 assembly repair kit 218 129.		
218 076	Needle bearing (1) (4)	6	-				
218 077	Planet gear (4)	3	-				
218 078	Ring gear	1	2.2	NOTE!	(6) included in the gear box assembly repair kit 218 127 (see also next page).		
218 079	O-ring (1)	1	-				
218 095	Carrier/Outputshaft	1	1.5	NOTE!	Parts included in a kit are not delivered separately!		
218 097	Planet gear shaft (5)	3	-				
218 107	Gear spacer (1) (5)	6	-				
218 108	Needle bearing (1) (5)	3	-				
218 109	Planet gear (5)	3	-				
218 111	Magnet cap	1	-				
218 112	Oil impregnated bearing (1) (6)	1	-				
218 113	Screw (1)	3	-				
218 110	Overhaul kit	1	1.8				
218 127	Repair kit for gearbox assembly	1	-				

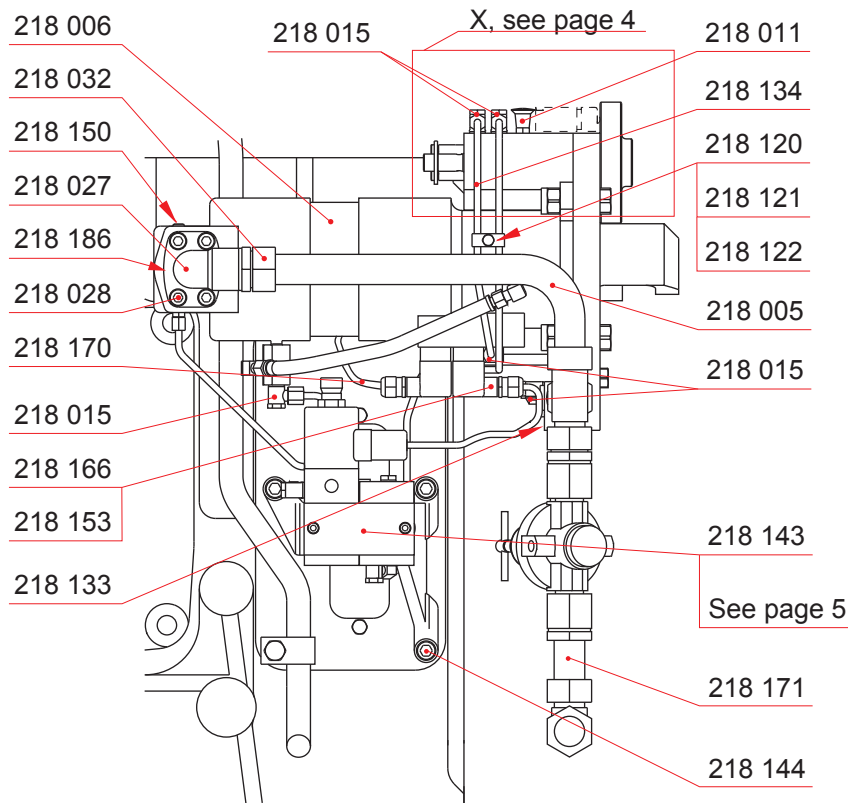
Air starter



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 006	Starting motor	1	19.5	218 110	Overhaul kit	1	1.8
218 054	Pipe union	1	-	218 127	Repair kit for gearbox assembly	1	-
218 080	Hose	1	-				
218 081	Screw (1)	3	-				
218 082	Solenoid valve (7)	1	0.2	NOTE!	(6) included in the gear box assembly repair kit 218 127.		
218 083	Screw (1) (6)	4	-	NOTE!	(7) Not used, if separately mounted 5/2 start solenoid valve.		
218 084	O-ring (1)	1	-	NOTE!	Parts included in a kit are not delivered separately!		
218 085	Gearbox housing	1	1.7				
218 086	Screw (1)	7	-				
218 087	Bearing hub	1	0.2				
218 088	Lip seal (1) (6)	1	-				
218 089	Retainer ring	1	-				
218 090	Pre-engage piston	1	0.2				
218 091	Split ring	2	-				
218 092	Starter drive	1	1.3				
218 093	O-ring (1)	1	-				
218 094	Screw (1)	7	-				
218 096	Controller module	1	0.1				
218 098	O-ring (1) (6)	1	-				
218 099	O-ring (1) (6)	1	-				
218 100	Thrust washer (1)	2	-				
218 101	O-ring (1)	1	-				
218 102	O-ring (1)	1	-				
218 103	Compression ring	1	0.1				
218 104	Drive housing	1	2.3				
218 105	Roller bearing	1	-				
218 106	Screw (1)	12	-				

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Starting air system

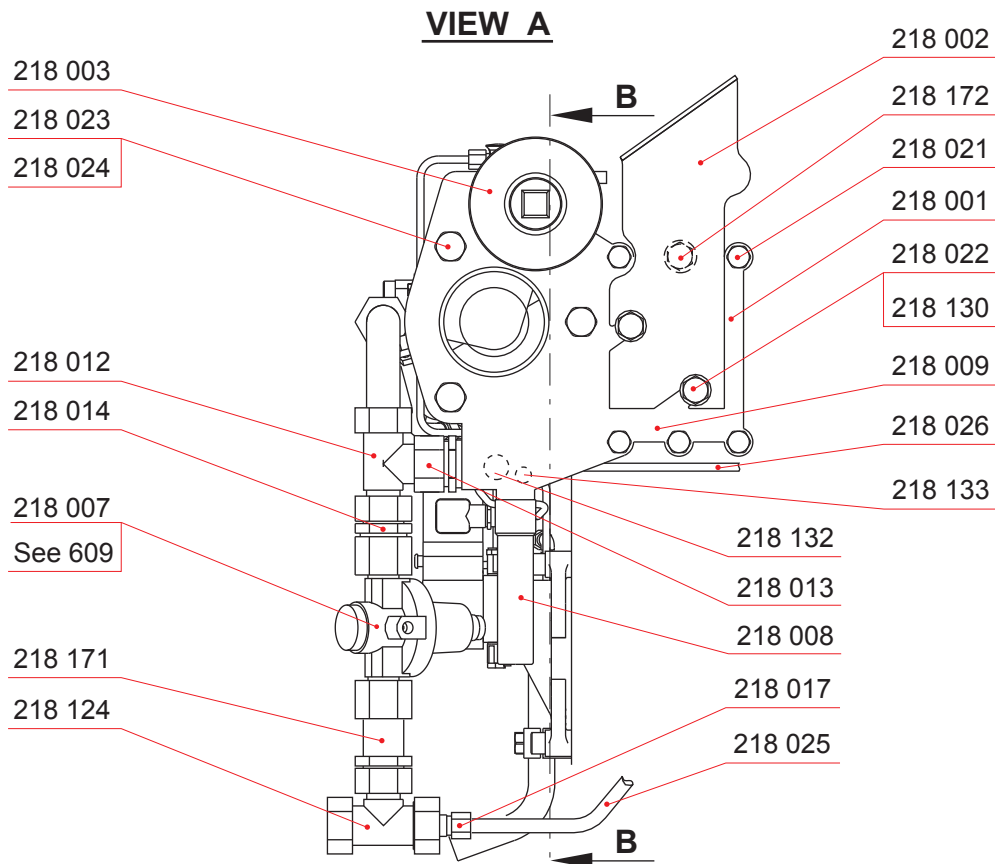


Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 005	Pipe	1	0.5
218 006	Starting motor (1)	1	19.5
218 011	Pin	1	-
218 015	Pipe union	5	-
218 027	Pipe union	1	0.6
218 028	Screw	4	-
218 032	Pipe union	1	0.3
218 120	Pipe clamp	1	-
218 121	Screw	1	-
218 122	Nut	1	-
218 133	Plug	1	-
218 134	Pipe	1	-
218 143	Solenoid valve assembly	1	3.6
218 144	Screw	3	-
218 150	Plug	2	-
218 153	Sleeve seal	3	-
218 166	Connector	1	-
218 170	Cable	1	-
218 171	Pipe	1	-
218 186	O-ring	1	-

NOTE! (1) see section 218-02.

Edition: D
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Updated: 17.10.2002

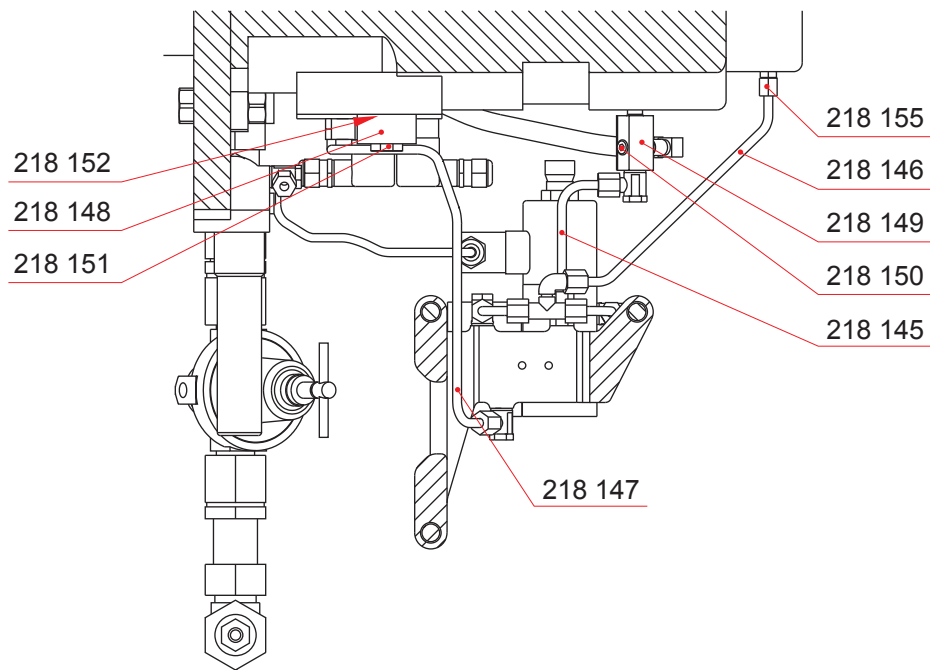
Starting air system



Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 001	Bracket	1	-
218 002	Indicating device	1	-
218 003	Rotating gear	1	2.5
218 007	Pressure regulating valve	1	2.1
218 008	Relief valve	1	0.4
218 009	Pin	2	-
218 012	Pipe union	1	0.6
218 013	Pipe union	1	0.3
218 014	Pipe union	3	0.3
218 017	Pipe union	1	0.2
218 021	Screw	6	0.1
218 022	Screw	2	-
218 023	Screw	3	0.1
218 024	Nut	3	-
218 025	Pipe	1	-
218 026	Pipe	1	-
218 124	Pipe union	3	0.6
218 130	Washer	2	-
218 132	Plug	1	-
218 133	Plug	1	-
218 171	Pipe	1	-
218 172	Screw	1	0.1

Starting air system

SECTION B-B

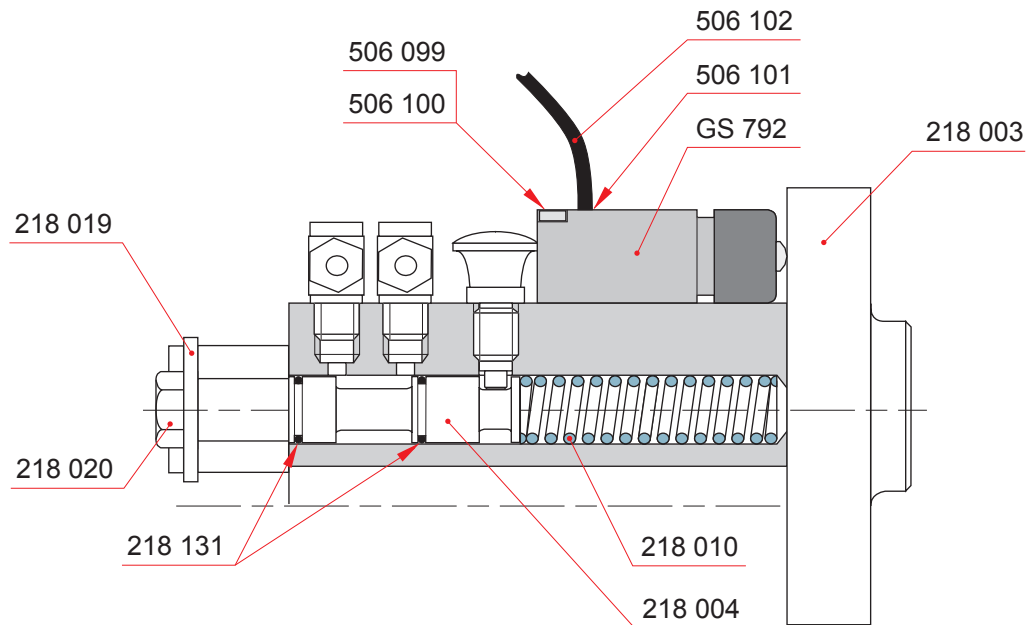


Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 145	Pipe	1	-
218 146	Pipe	1	-
218 147	Pipe	1	-
218 148	Connecting piece	1	-
218 149	Adapter piece	1	0.1
218 150	Plug	2	-
218 151	Screw	3	-
218 152	O-ring	1	-
218 155	Pipe union	1	-

Edition: D
 Page: 4(5)
 Updated: 17.10.2002

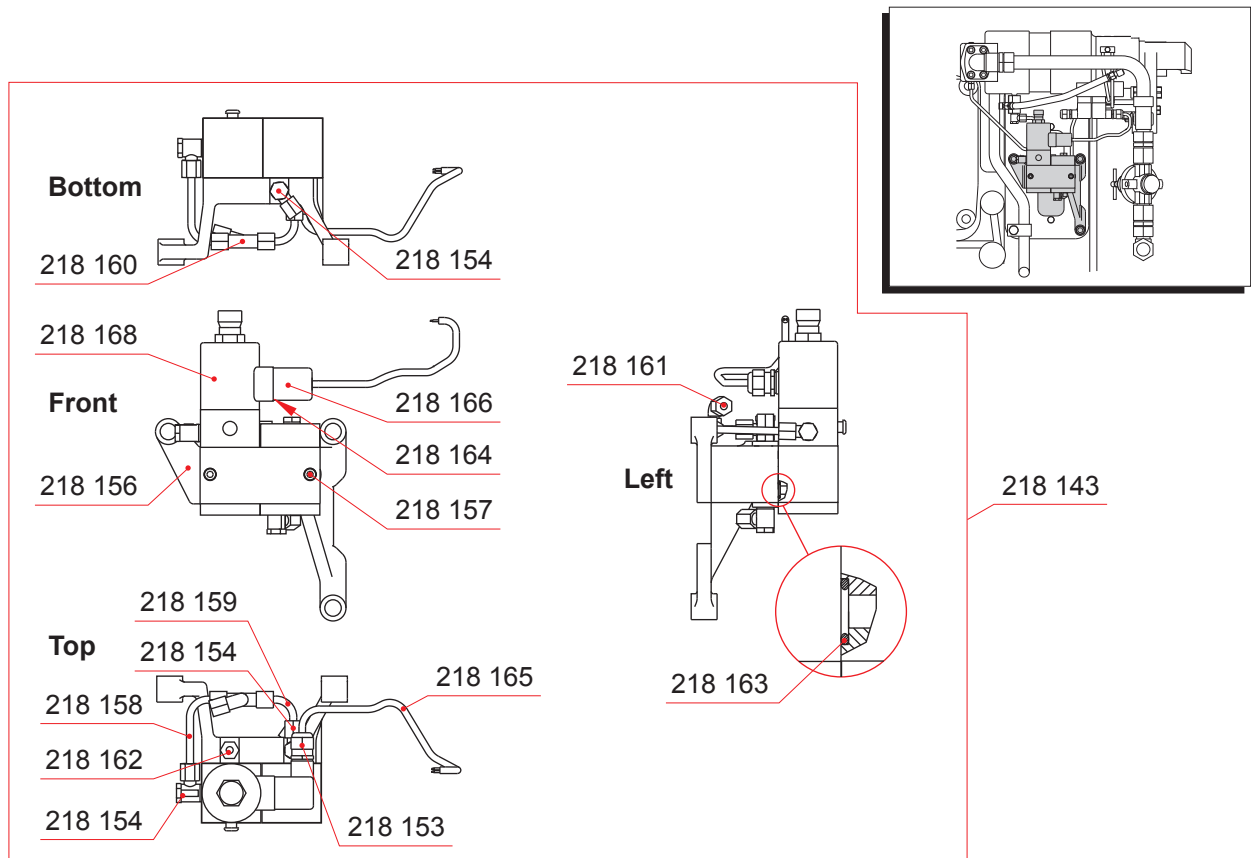
Starting air system

ITEM X



Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 003	Rotating gear	1	2.5
218 004	Spindle	1	0.1
218 010	Spring	1	-
218 019	Washer	1	-
218 020	Screw	1	-
218 131	O-ring	2	-
506 099	Screw	2	-
506 100	Washer	2	-
506 101	Cable gland	1	-
506 102	Cable	1	-
GS792	Limit switch	1	-

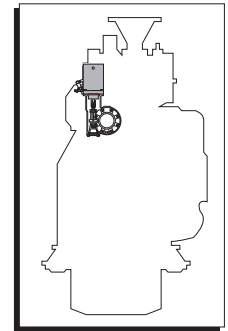
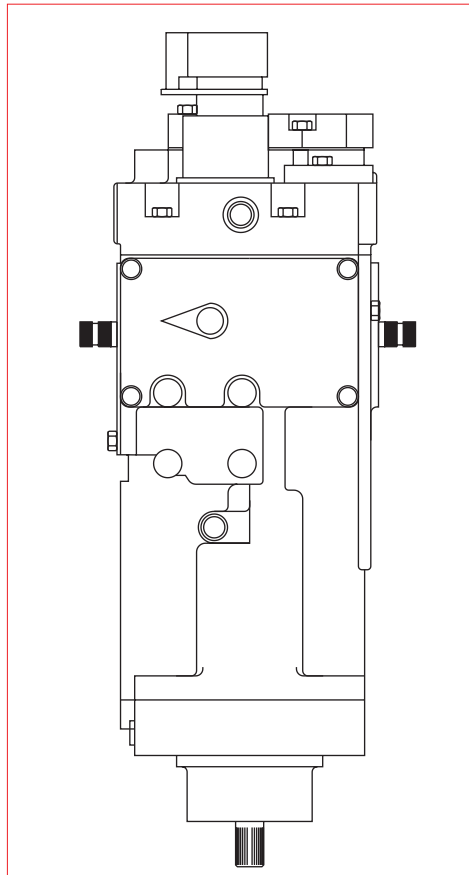
Starting air system



Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 143	Solenoid valve assembly	1	3.6
218 153	Sleeve seal	3	-
218 154	Pipe union	3	-
218 156	Bracket	1	1.5
218 157	Screw	2	-
218 158	Pipe	1	-
218 159	Pipe	1	-
218 160	Pipe union	1	-
218 161	Pipe union	1	-
218 162	Pipe union	1	-
218 163	O-ring	5	-
218 164	Gasket	1	-
218 165	Cable	1	-
218 166	Connector	1	-
218 168	Solenoid valve	1	1.8

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Governor



220 001

Part No.	Description	Qty [Pcs]	Wt. [Kg]
220 001	Governor	1	-
220 395	Spare part kit (1)	1	0.2
220 398	Spare part kit (2)	1	-

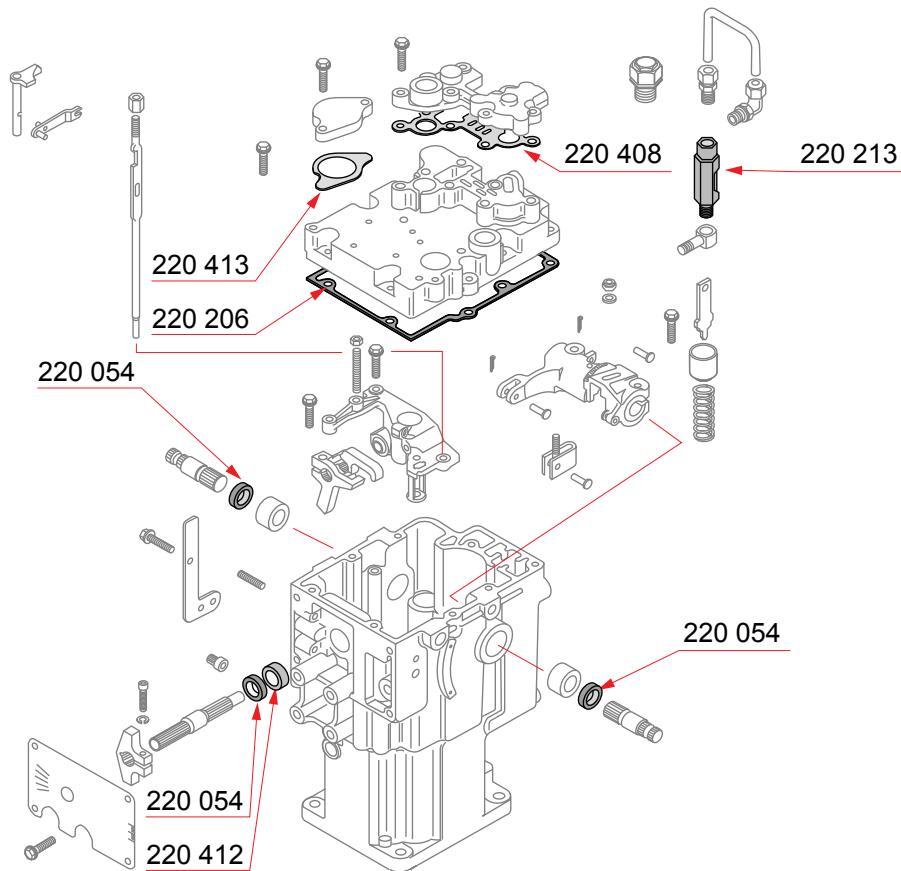
NOTE! (1) Basic overhaul kit. Illustrated in pages 2, 3 and 5.

NOTE! (2) Air control overhaul kit. Illustrated in page 4.

NOTE! Parts included in a set or a kit cannot be ordered separately.

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 Updated: 13.03.2008

Governor



Part No.	Description	Qty [Pcs]	Wt. [Kg]
220 395	Spare part kit	1	0.2
220 054	Oil seal (1)	3	-
220 206	Gasket (1) ***	1	-
220 408	Gasket (1)	1	-
220 412	Bearing (1)	1	-
220 413	Gasket (1)	1	-
220 213	Oil sight glass	1	0.1

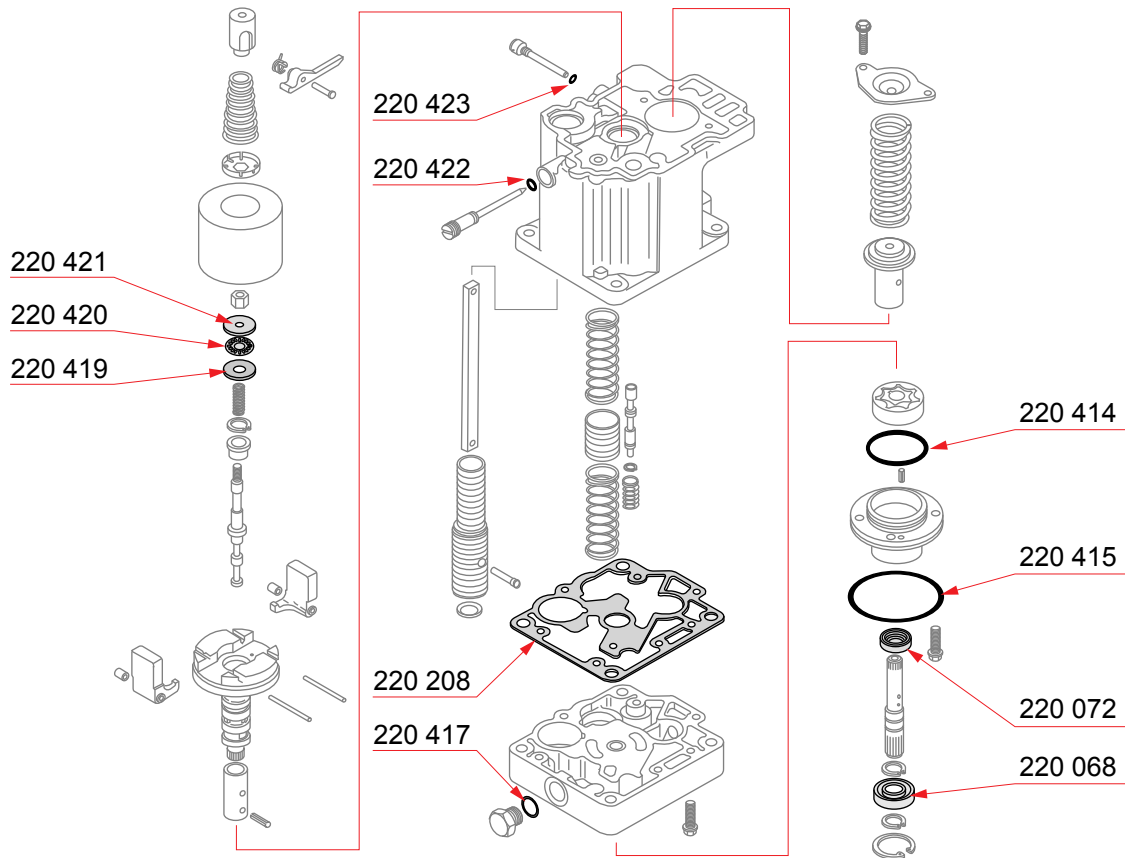
NOTE! (1) Basic overhaul kit

NOTE! *** Can be ordered separately.

NOTE! Parts included in a set or a kit cannot be ordered separately.

NOTE! Spare part kit 220 395 includes items marked (1).

Governor

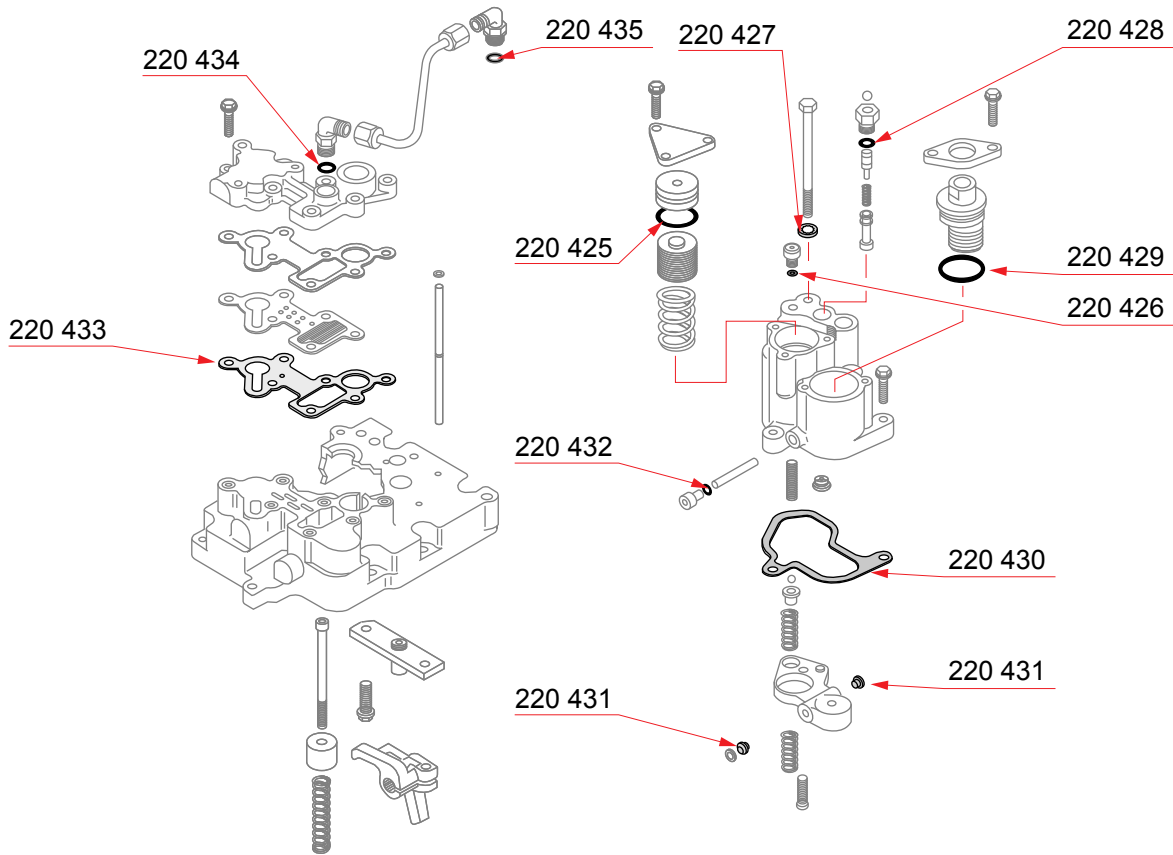


Part No.	Description	Qty [Pcs]	Wt. [Kg]
220 068	Ball bearing (1)	1	-
220 072	Oil seal (1)	1	-
220 208	Gasket (1) ***	1	-
220 414	O-ring (1)	1	-
220 415	O-ring (1)	1	-
220 417	O-ring (1)	1	-
220 419	Bearing race (1)	1	-
220 420	Thrust bearing (1)	1	-
220 421	Bearing race (1)	1	-
220 422	O-ring (1)	1	-
220 423	O-ring (1)	1	-

- NOTE! (1) Basic overhaul kit
- NOTE! *** Can be ordered separately.
- NOTE! Parts included in a set or a kit cannot be ordered separately.
- NOTE! Spare part kit 220 395 includes items marked (1).

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Governor



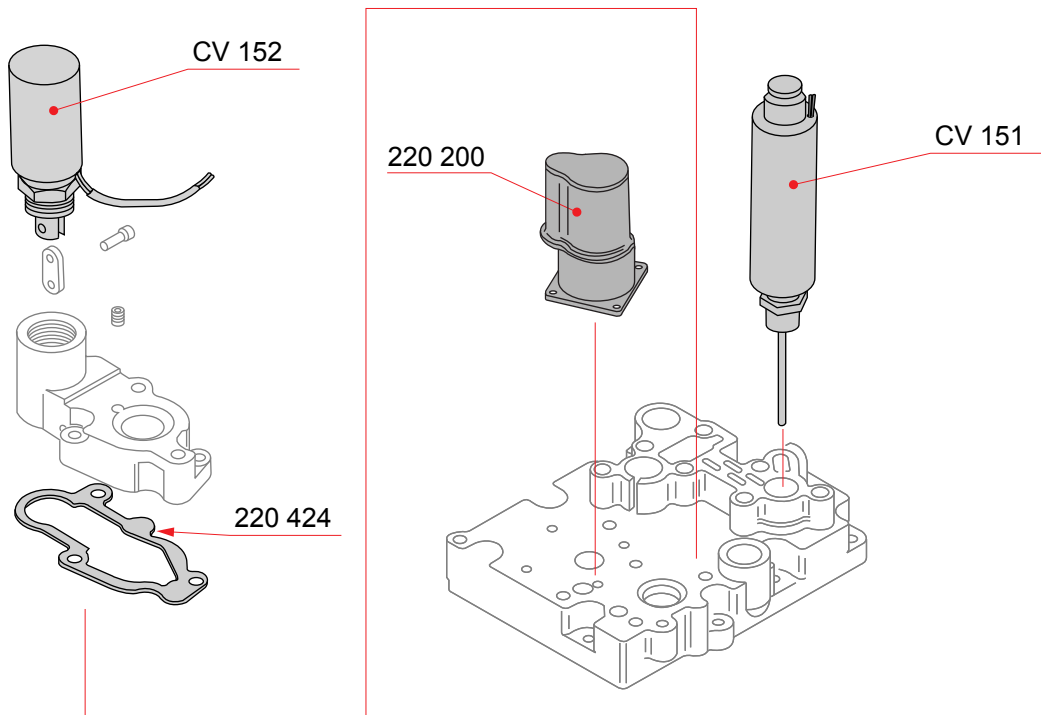
Part No.	Description	Qty [Pcs]	Wt. [Kg]
220 398	Spare part kit	1	-
220 425	O-ring (2)	1	-
220 426	O-ring (2)	1	-
220 427	Washer (2)	1	-
220 428	O-ring (2)	1	-
220 429	O-ring (2)	1	-
220 430	Gasket (2)	1	-
220 431	Bearing (2)	2	-
220 432	O-ring (2)	1	-
220 433	Gasket (2)	1	-
220 434	O-ring (2)	1	-
220 435	O-ring (2)	1	-

NOTE! (2) Air control overhaul kit.

NOTE! Parts included in a set or a kit cannot be ordered separately.

NOTE! Spare part kit 220 398 includes items marked (2).

Governor



Part No.	Description	Qty [Pcs]	Wt. [Kg]
220 200	Electric motor	1	0.5
220 424	Gasket (1)	1	-
CV151	Solenoid valve	1	1.2
CV152	Solenoid valve	1	0.7

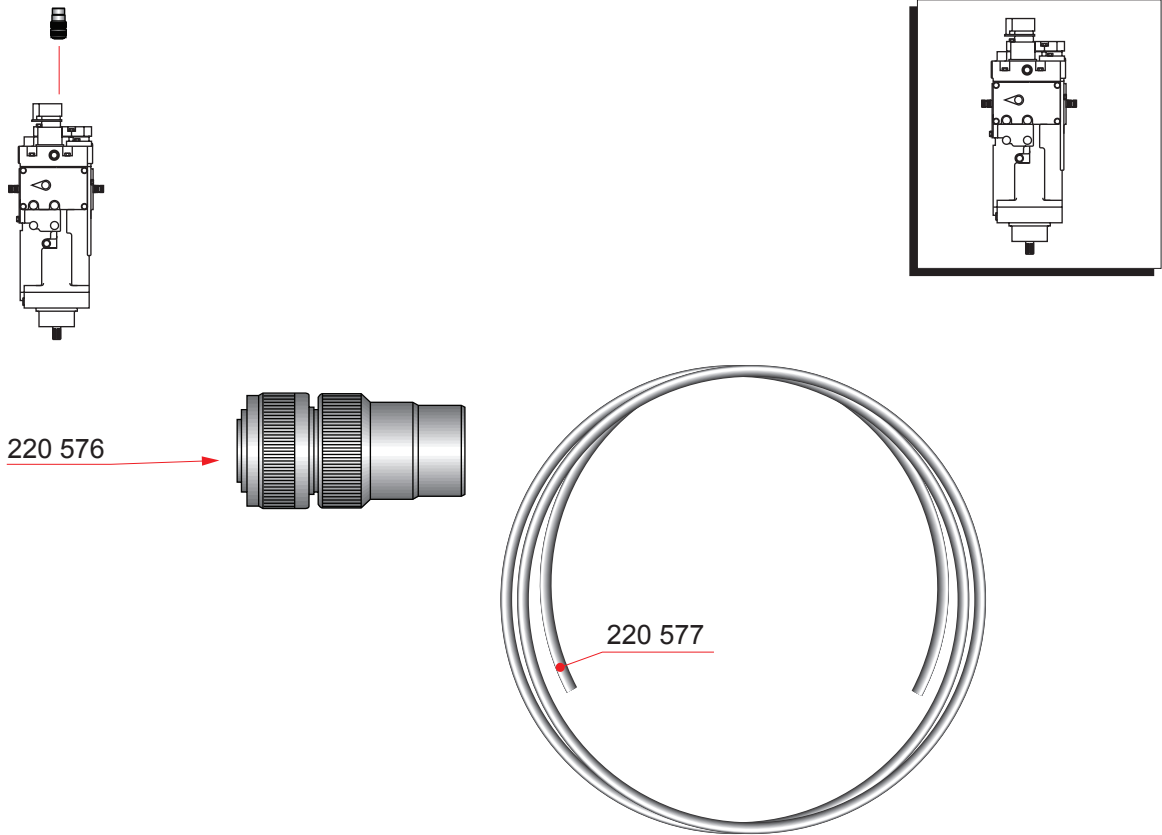
NOTE! (1) Basic overhaul kit

NOTE! Parts included in a set or a kit cannot be ordered separately.

NOTE! Spare part kit 220 395 includes items marked (1).

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Connectors and cables for covernors

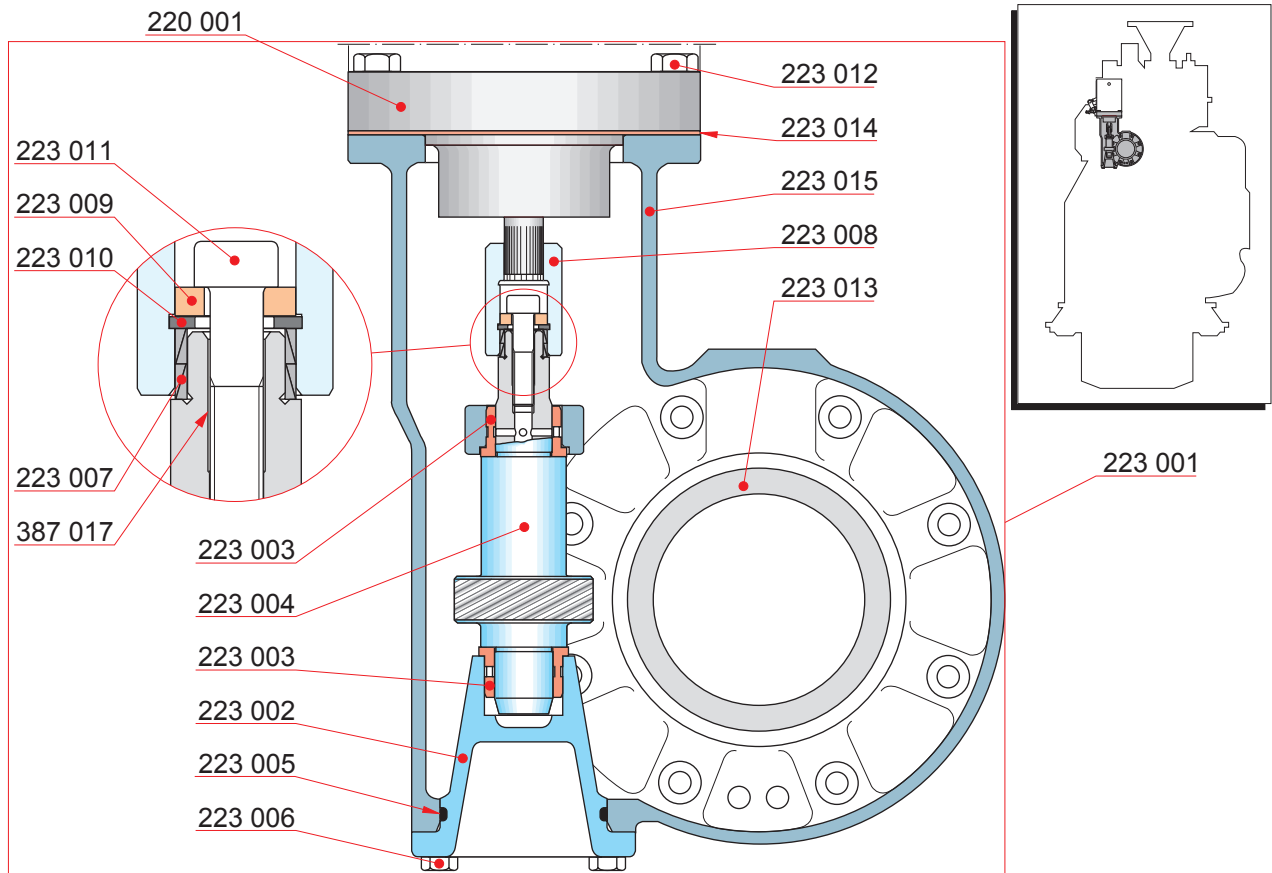


Part No.	Description	Qty [Pcs]	Wt. [Kg]
220 576	Connector	1	-
220 577	Cable (1)	1	-

NOTE! (1) Length needed when ordering

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Governor drive

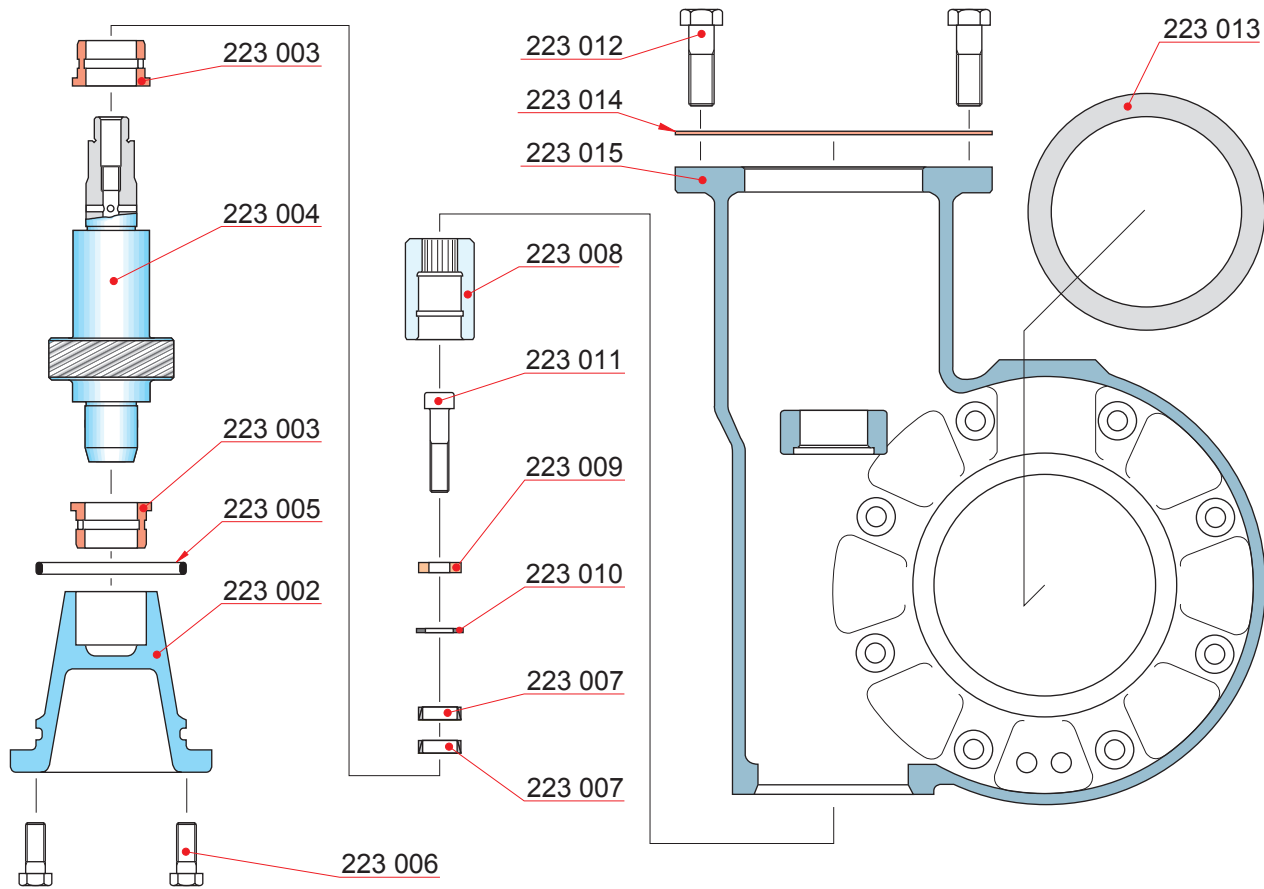


Part No.	Description	Qty [Pcs]	Wt. [Kg]
220 001	Governor	1	-
223 001	Governor drive	1	19.1
223 002	Bearing housing	1	1.4
223 003	Bearing bush	2	-
223 004	Shaft	1	1.0
223 005	O-ring	1	-
223 006	Screw	4	-
223 007	Pair of friction rings	2	-
223 008	Coupling	1	0.2
223 009	Washer	1	-
223 010	Retainer ring	1	-
223 011	Screw	1	-
223 012	Screw	1	-
223 013	Thrust bearing bush	2	0.5
223 014	Gasket	1	-
223 015	Bracket	1	-
387 017	Glue compound	1	-

Edition: C

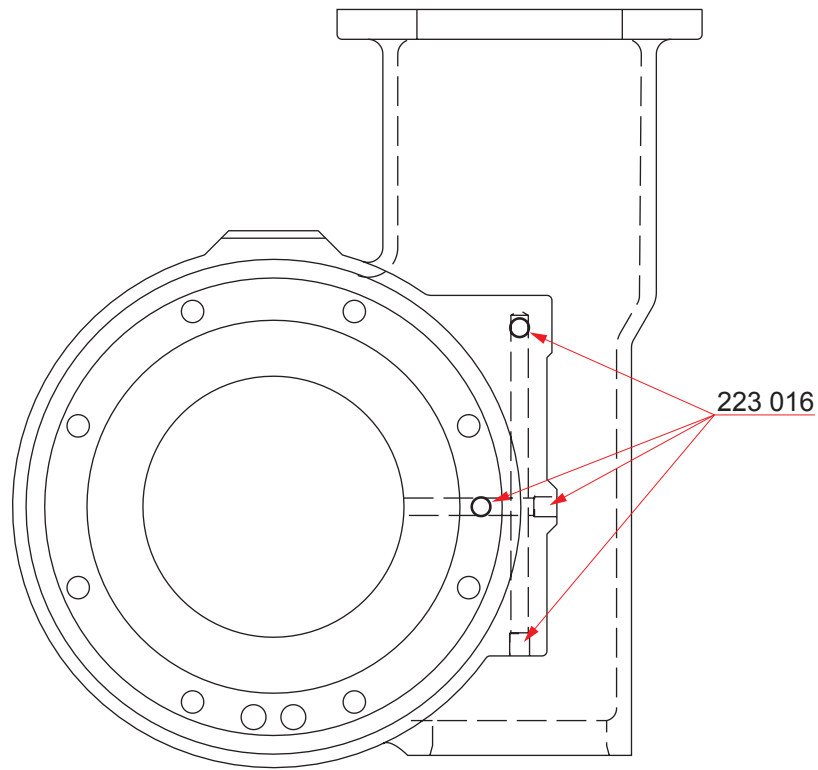
Page: 2(3)

Updated: 14.05.2004

Governor drive

Part No.	Description	Qty [Pcs]	Wt. [Kg]
223 002	Bearing housing	1	1.4
223 003	Bearing bush	2	-
223 004	Shaft	1	1.0
223 005	O-ring	1	-
223 006	Screw	4	-
223 007	Pair of friction rings	2	-
223 008	Coupling	1	0.2
223 009	Washer	1	-
223 010	Retainer ring	1	-
223 011	Screw	1	-
223 012	Screw	1	-
223 013	Thrust bearing bush	2	0.5
223 014	Gasket	1	-
223 015	Bracket	1	-

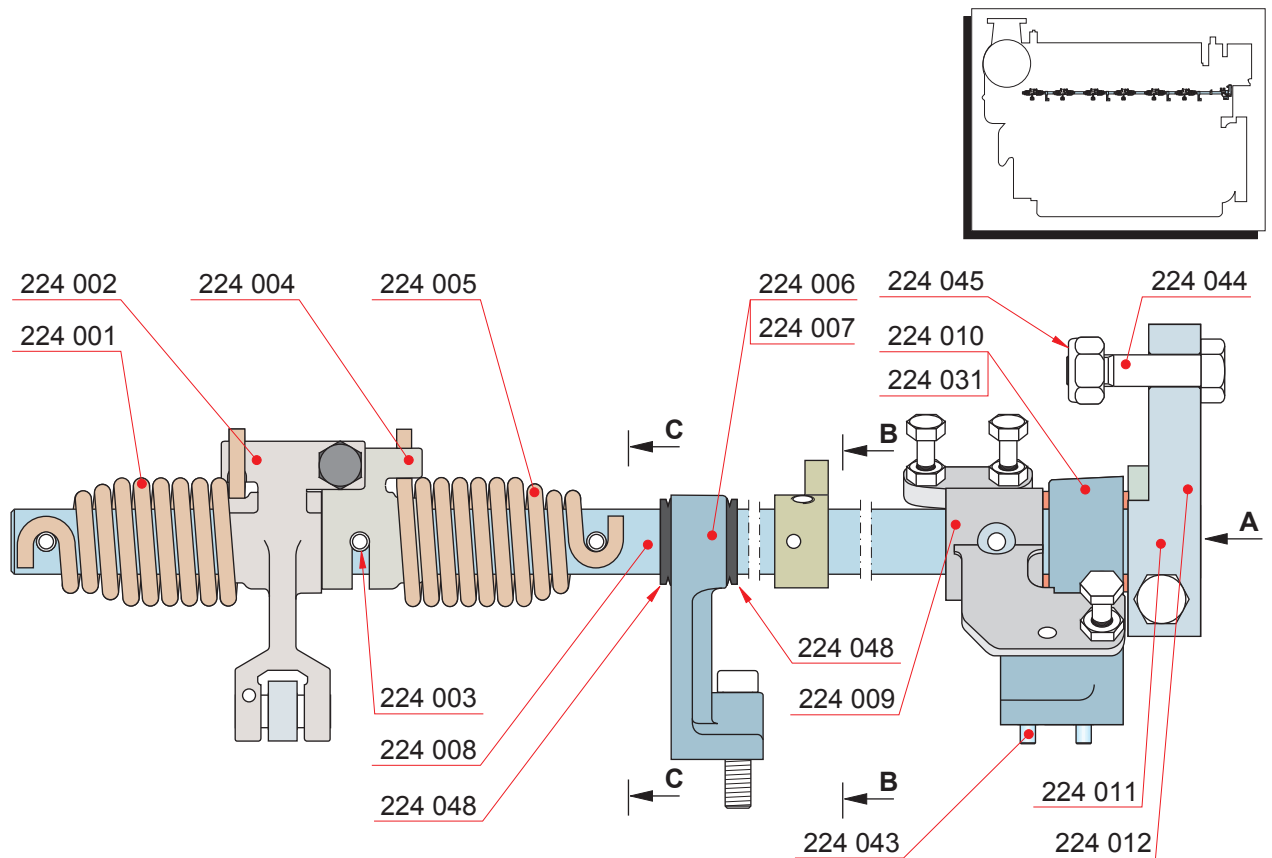
Governor drive



Part No.	Description	Qty [Pcs]	Wt. [Kg]
223 016	Expander	4	-

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Control shaft

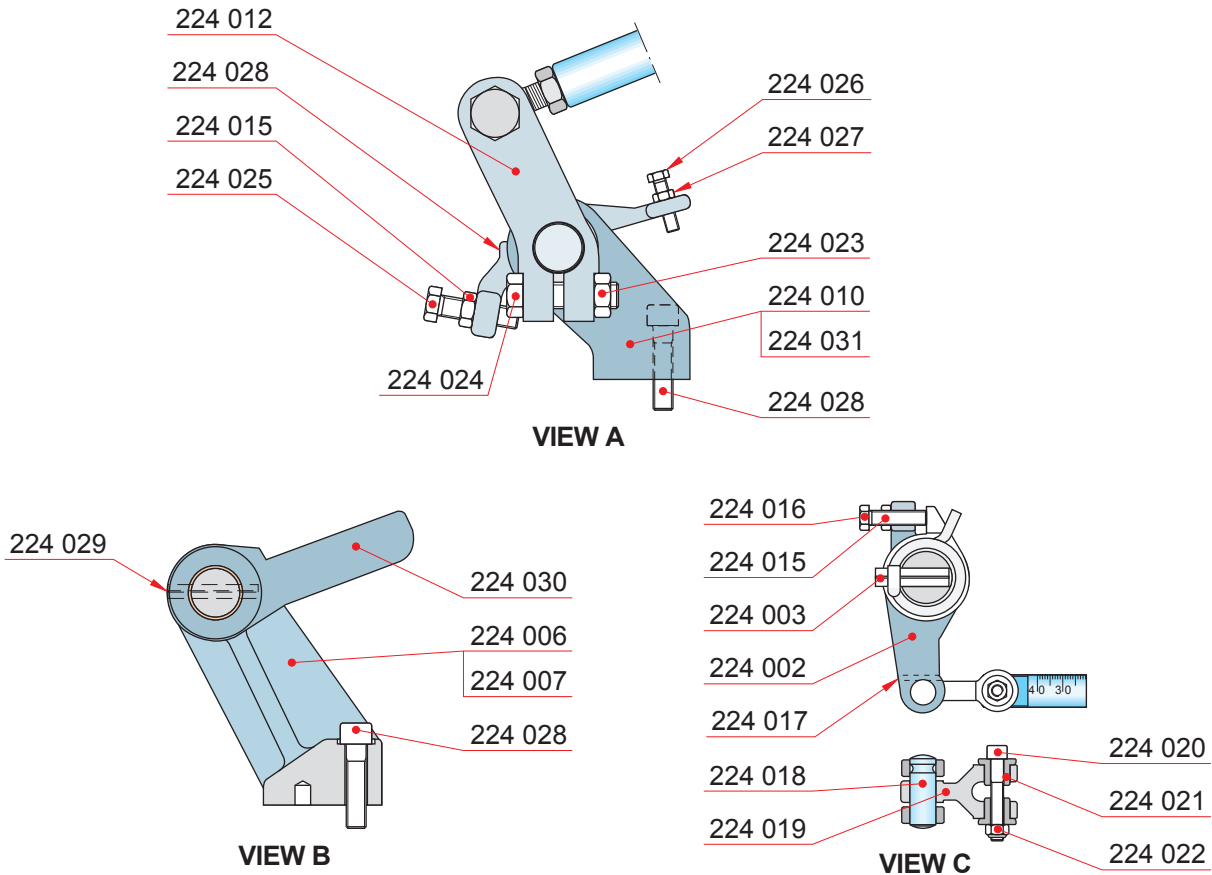


Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 001	Torsional spring	*	0.1
224 002	Lever	*	0.3
224 003	Pin	*	-
224 004	Follower	*	0.2
224 005	Torsional spring	*	0.2
224 006	Bearing housing	*	0.8
224 007	Bearing bush	*	-
224 008	Control shaft	1	7.2
224 009	Load limiter	1	0.3
224 010	Bearing housing	1	0.7
224 031	Bearing bush	1	-
224 011	Pin	1	-
224 012	Lever	1	0.3
224 043	Pin	2	-
224 044	Screw	1	-
224 045	Nut	1	-
224 048	V-ring	*	-

NOTE! * See page 3.

Edition: B
Page: 2(3)
Updated: 01.12.1997

Control shaft



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 002	Lever	*	0.3				
224 003	Pin	*	-	NOTE!	* See page 3.		
224 006	Bearing housing	*	0.8				
224 007	Bearing bush	*	-				
224 010	Bearing housing	1	0.7				
224 031	Bearing bush	1	-				
224 012	Lever	1	0.3				
224 015	Nut	*	-				
224 016	Screw	*	-				
224 017	Pin	*	-				
224 018	Shaft for lever	*	-				
224 019	Lever	*	-				
224 020	Screw	*	-				
224 021	Sleeve for injection pump	*	-				
224 022	Nut	*	-				
224 023	Nut	1	-				
224 024	Screw	1	-				
224 025	Screw	1	-				
224 026	Screw	2	-				
224 027	Nut	2	-				
224 028	Screw	*	-				
224 029	Pin	2	-				
224 030	Lever arm	1	0.3				

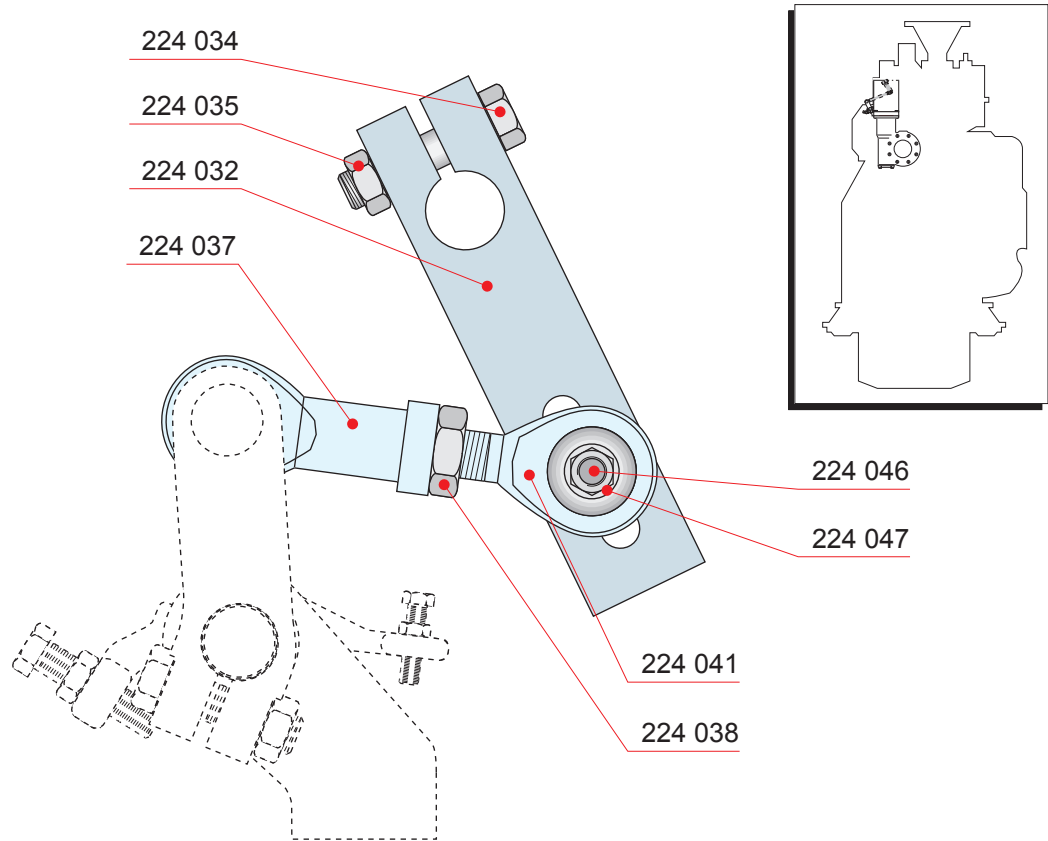
Control shaft

Quantity according to number of cylinders

Part No	Pieces					Part No	Pieces				
	4L20	5L20	6L20	8L20	9L20		4L20	5L20	6L20	8L20	9L20
224 001	4	5	6	8	9	224 017	4	5	6	8	9
224 002	4	5	6	8	9	224 018	4	5	6	8	9
224 003	12	15	18	24	27	224 019	4	5	6	8	9
224 004	4	5	6	8	9	224 020	4	5	6	8	9
224 005	4	5	6	8	9	224 021	8	10	12	16	18
224 006	3	3	4	5	5	224 022	4	5	6	8	9
224 007	3	-	4	5	5	224 028	4	4	5	6	6
224 015	5	6	7	9	10	224 048	6	6	8	10	10
224 016	4	5	6	8	9						

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Adjustable link rod

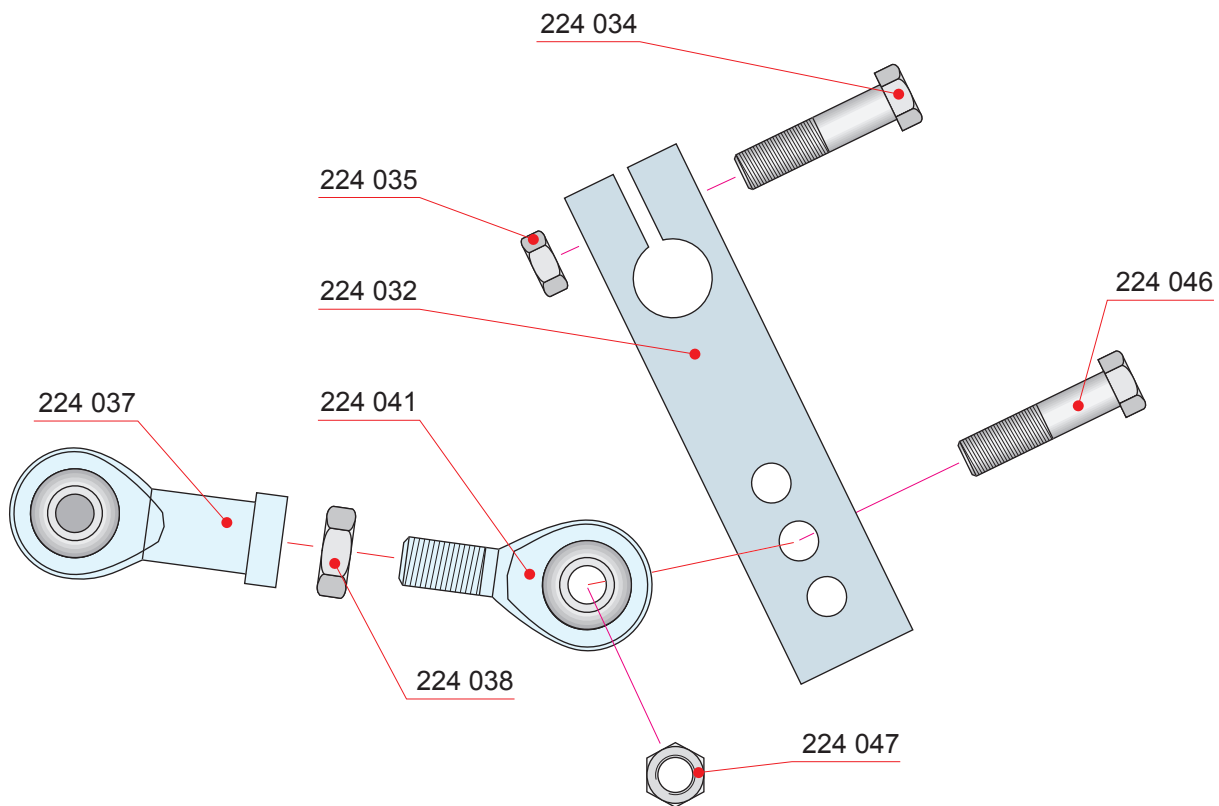


Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 032	Lever	1	0.3
224 034	Screw	1	-
224 035	Nut	1	-
224 037	Ball joint, right	1	-
224 038	Nut, right-hand	1	-
224 041	Ball joint, left	1	-
224 046	Screw	1	-
224 047	Nut	1	-

Edition: A

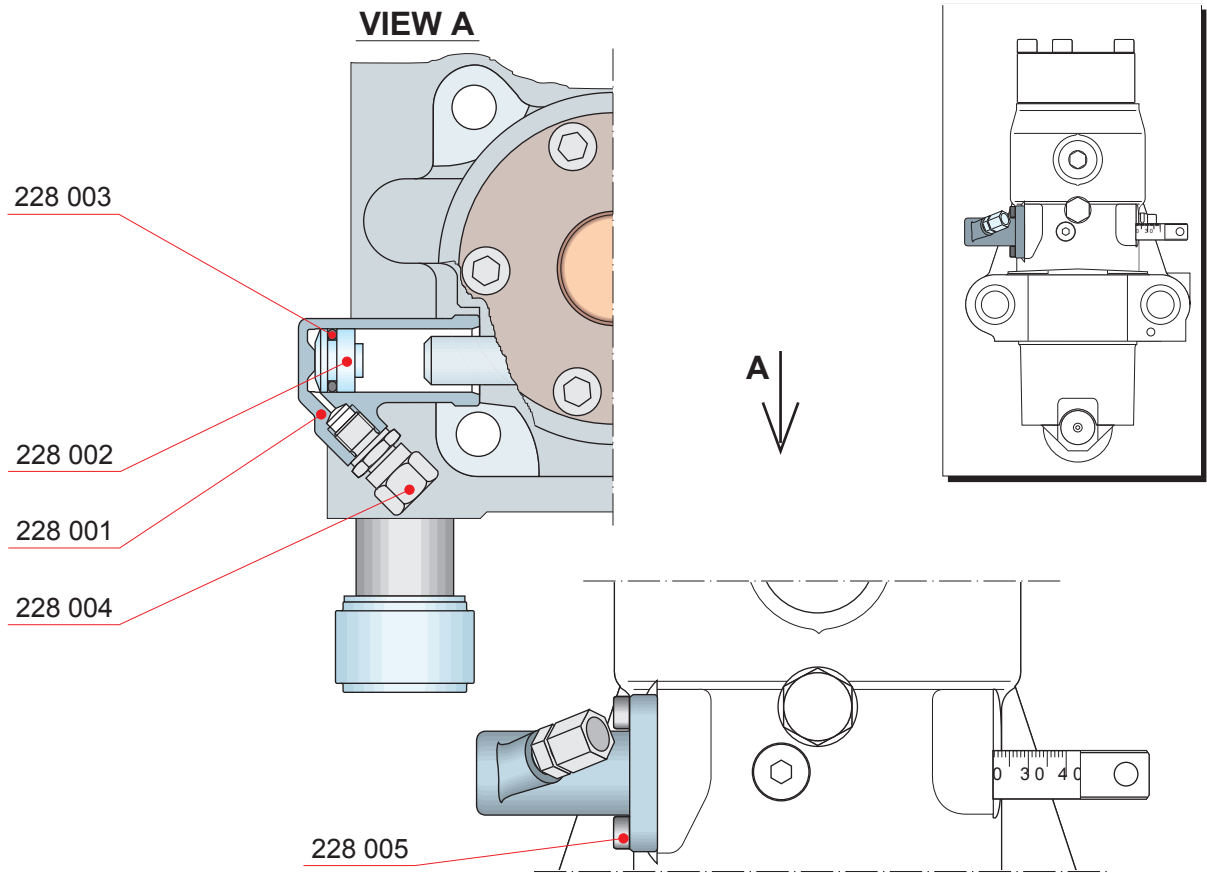
Page: 2(2)

Updated: 02.11.1996

Adjustable link rod

Part No.	Description	Qty [Pcs]	Wt. [Kg]
224 032	Lever	1	0.3
224 034	Screw	1	-
224 035	Nut	1	-
224 037	Ball joint, right	1	-
224 038	Nut, right-hand	1	-
224 041	Ball joint, left	1	-
224 046	Screw	1	-
224 047	Nut	1	-

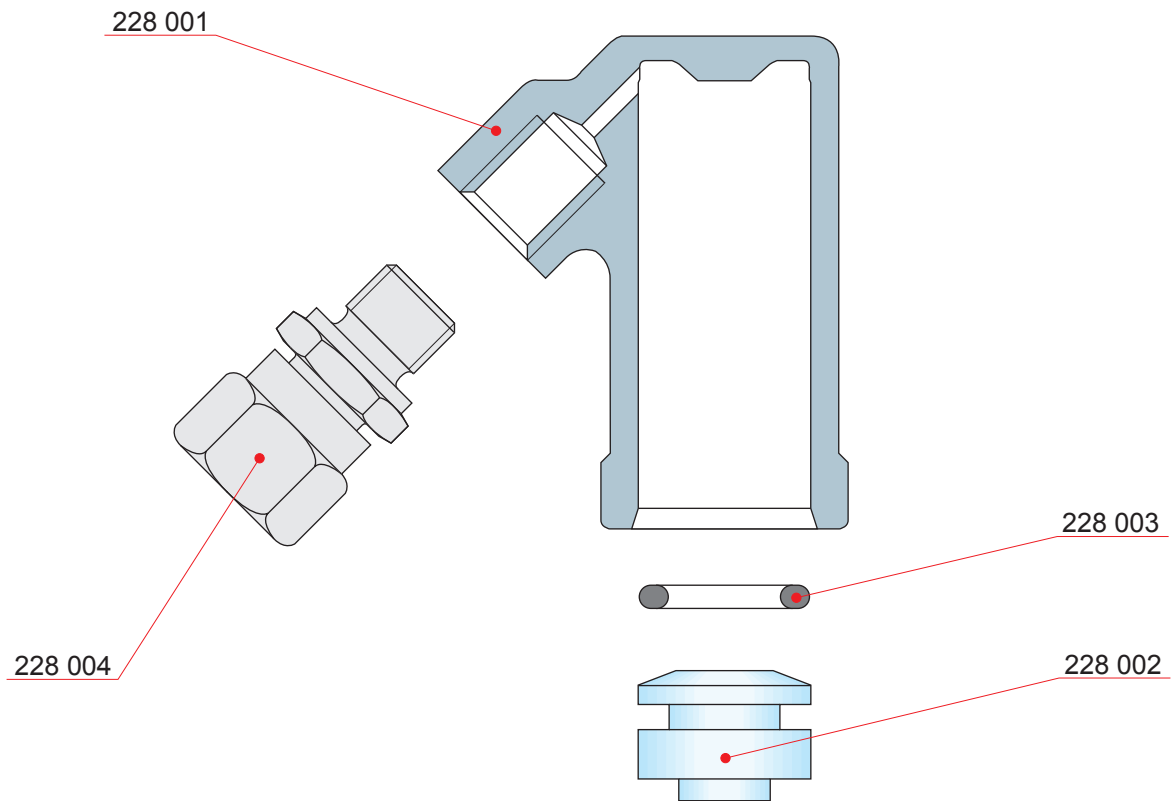
Pneumatic overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 001	Housing	1	-
228 002	Piston	1	-
228 003	Slide ring	1	-
228 004	Pipe union	1	-
228 005	Screw	2	-

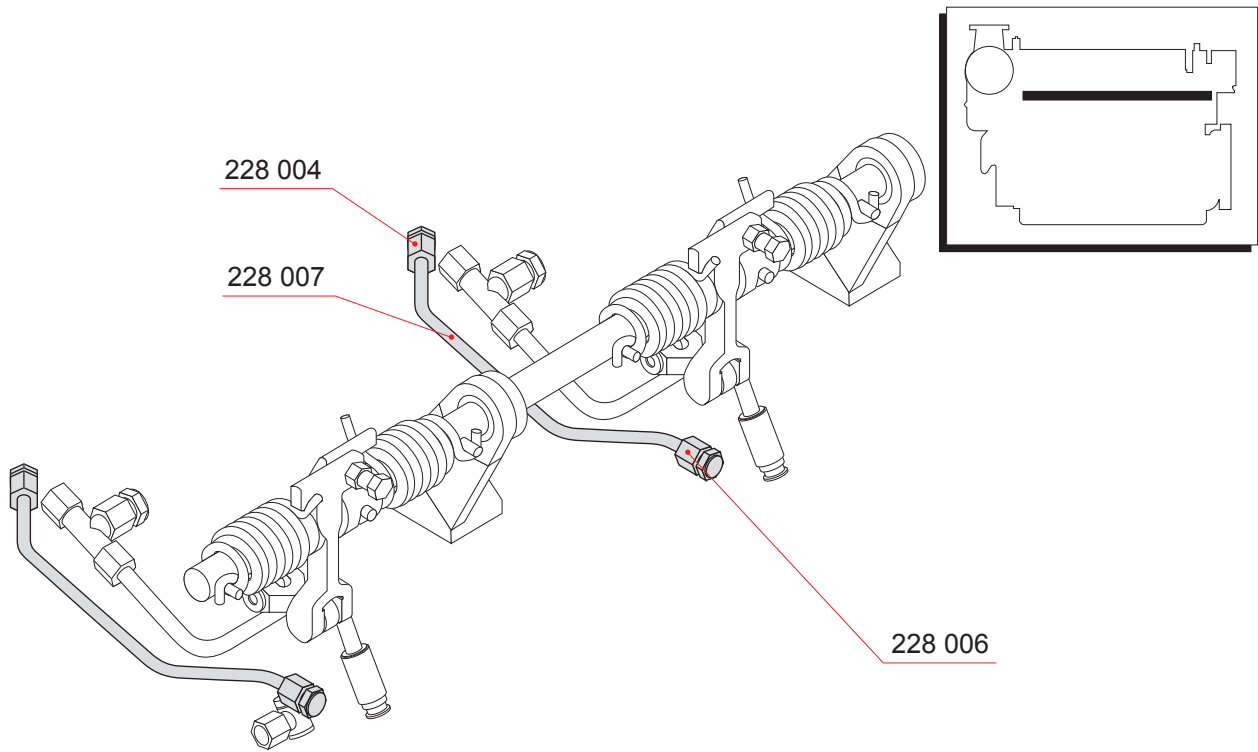
Edition: A
 Page: 2(2)
 Updated: 29.10.1993

Pneumatic overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 001	Housing	1	-
228 002	Piston	1	-
228 003	Slide ring	1	-
228 004	Pipe union	1	-

Piping for pneumatic overspeed trip device



Part No.	Description	Qty [Pcs]	Wt. [Kg]
228 004	Pipe union	*	-
228 006	Pipe union	*	-
228 007	Pipe	*	-

NOTE! * See page 2

Edition: C

Page: 2(2)

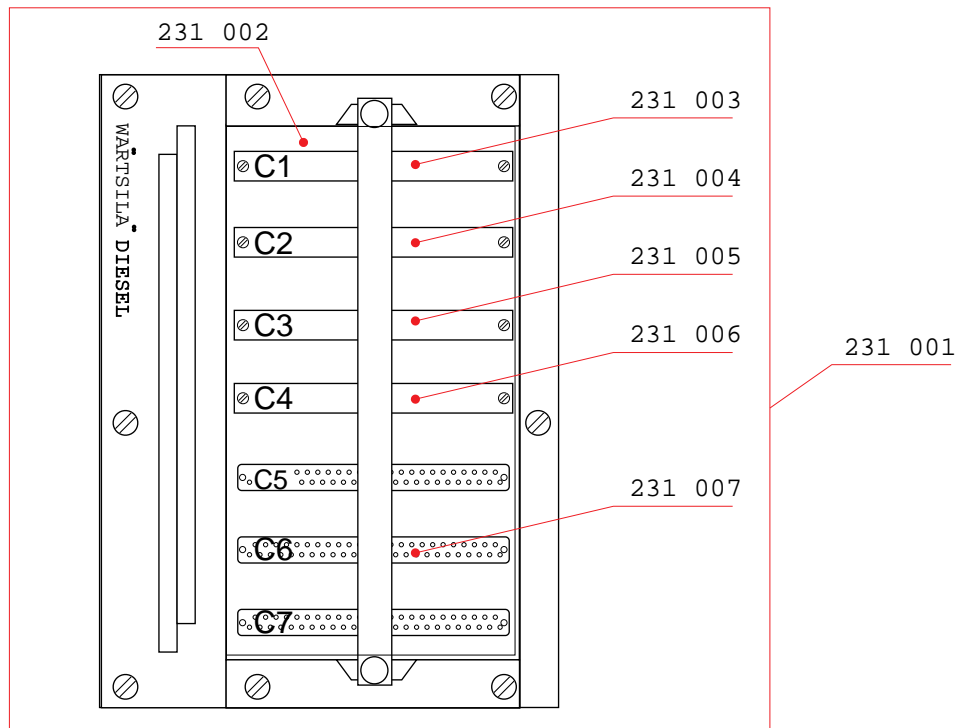
Updated: 12.02.1996

Piping for pneumatic overspeed trip device

Quantity according to number of cylinders

Part No	Pieces					
	3L20	4L20	5L20	6L20	8L20	9L20
228 004	3	4	5	6	8	9
228 006	3	4	5	6	8	9
228 007	3	4	5	6	8	9

Speed measuring system

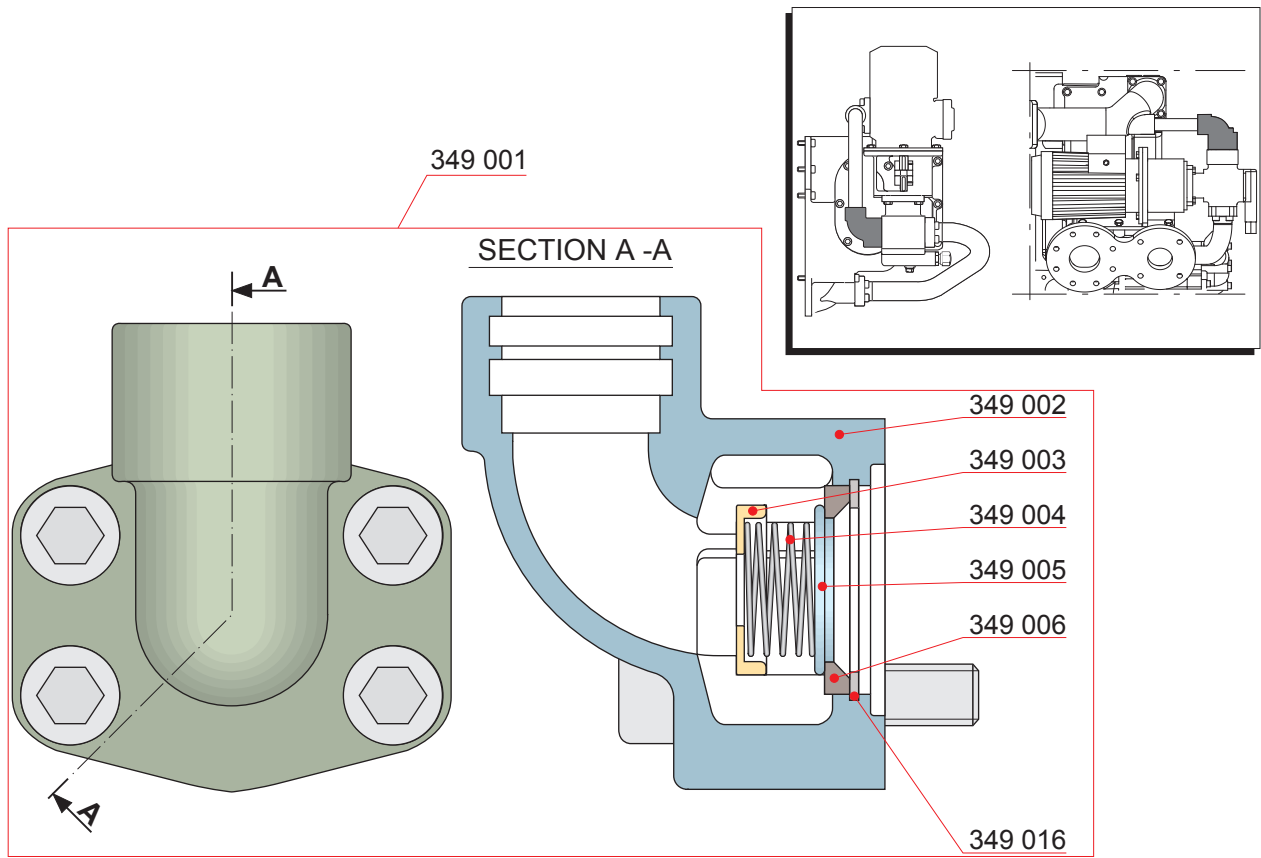


Part No.	Description	Qty [Pcs]	Wt. [Kg]
231 001	SPEMOS device	1	-
231 002	Motherboard	1	0.6
231 003	DC/DC-card	1	0.2
231 004	NDE card	1	-
231 005	REL 1-card	1	-
231 006	TC-card	1	-
231 007	Relay card (1)	1	-

NOTE! (1) Depending on installation.

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Non-return valve for lubricating oil pump module

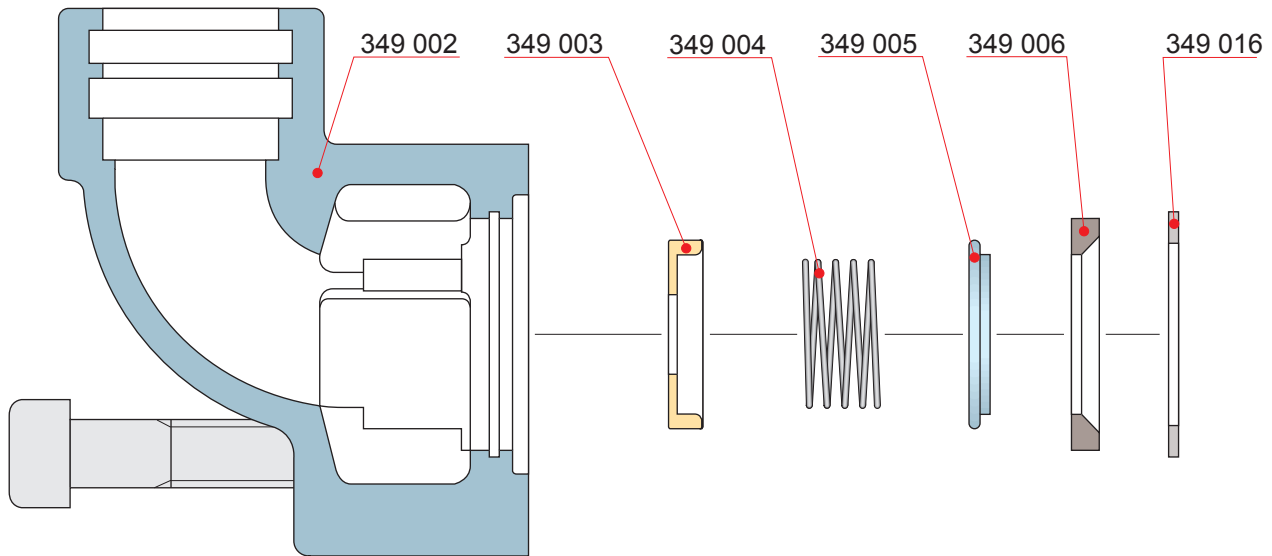


Part No.	Description	Qty [Pcs]	Wt. [Kg]
349 001	Non-return valve	1	-
349 002	Housing	1	2.8
349 003	Spring retainer	1	-
349 004	Spring	1	-
349 005	Valve disc	1	-
349 006	Seal ring	1	-
349 016	Retainer ring	1	-

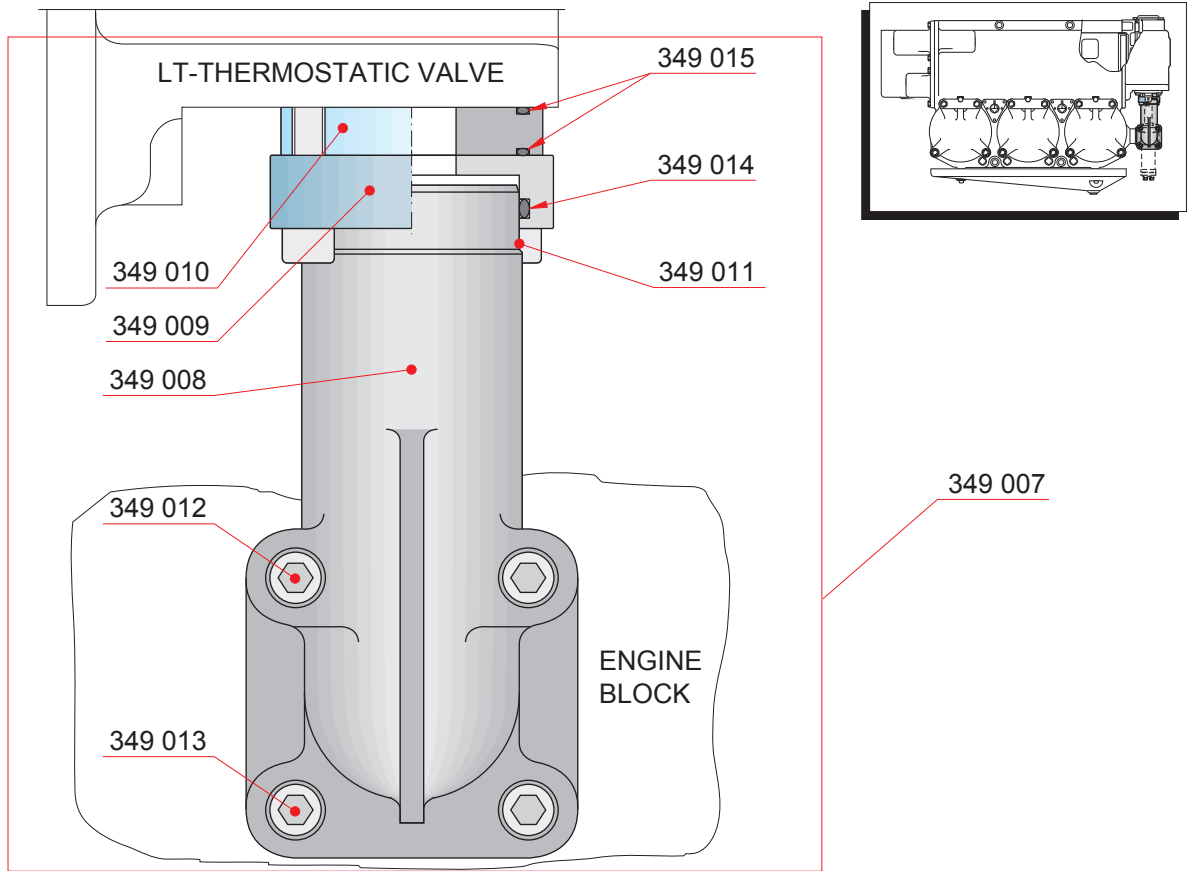
Edition: C

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Updated: 16.02.2000

Non-return valve for lubricating oil pump module

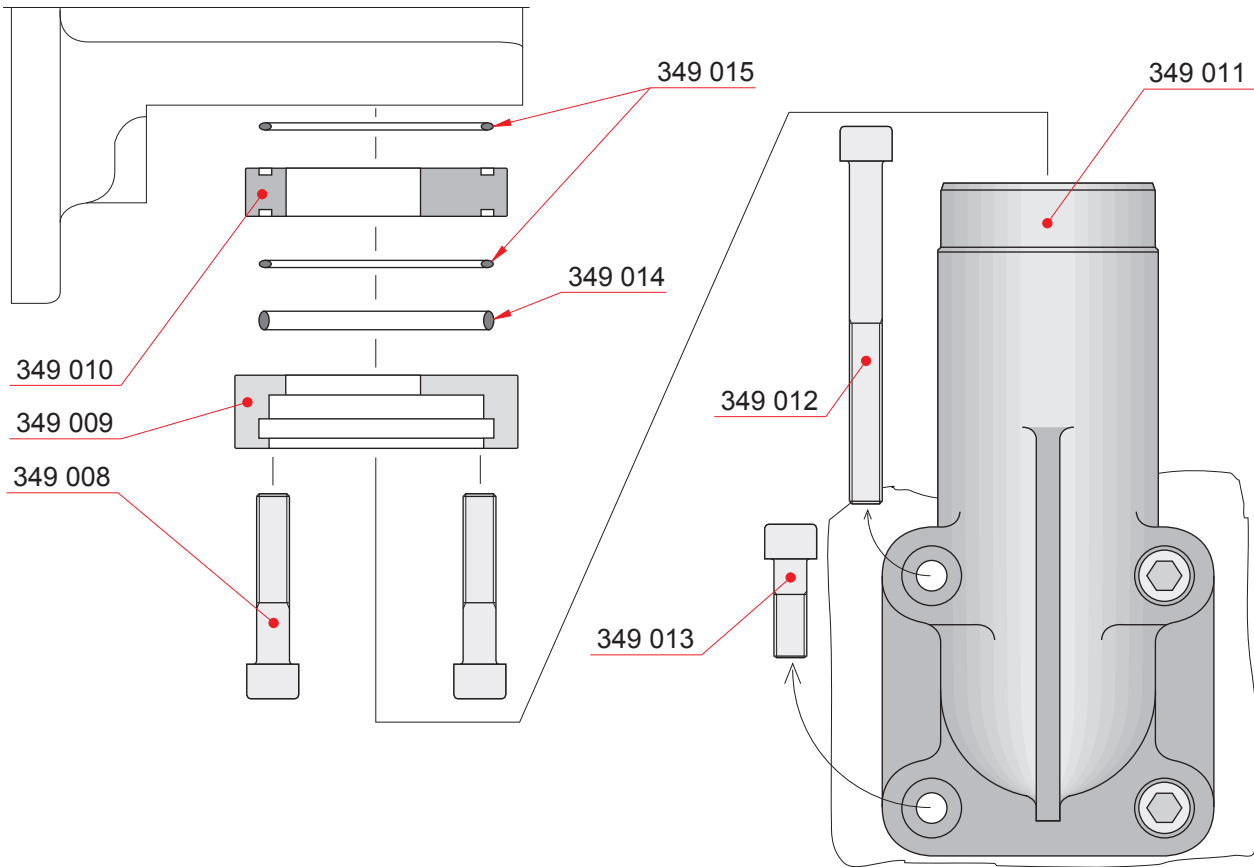
LT water pipe with throttle



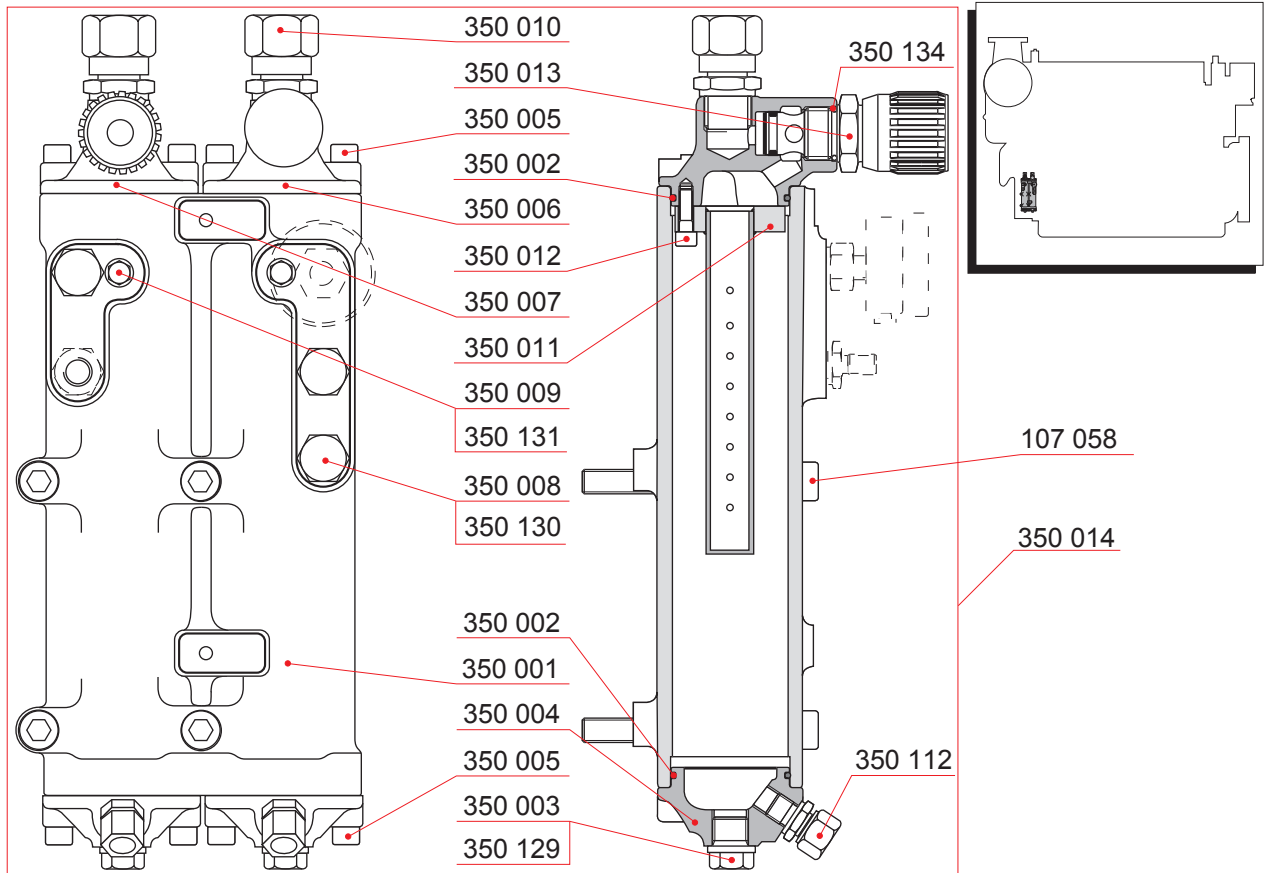
Part No.	Description	Qty [Pcs]	Wt. [Kg]
349 007	LT water pipe with throttle	1	6.5
349 008	Bend	1	3.3
349 009	Throttle flange	1	1.3
349 010	Throttle flange	1	0.8
349 011	Screw	4	-
349 012	Screw	2	0.1
349 013	Screw	2	-
349 014	O-ring	1	-
349 015	O-ring	2	-

Edition: A
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Updated: 29.10.1993

LT water pipe with throttle



Pulse damper for fuel oil

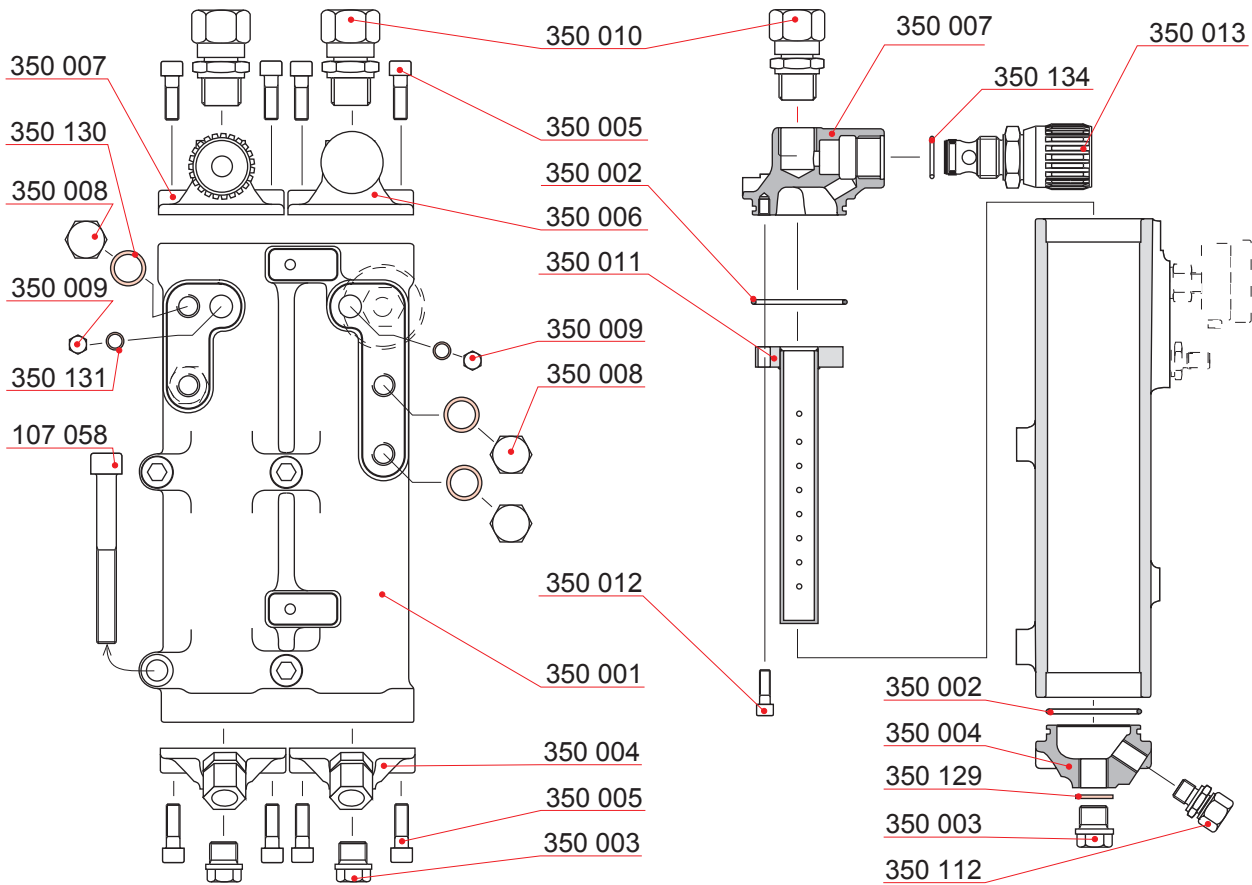


Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 014	Pulse damper	1	-
350 001	Housing	1	13.1
350 002	O-ring	4	-
350 003	Plug	1	-
350 004	Flange	2	0.6
350 005	Screw	16	-
350 006	Flange	1	-
350 007	Flange	1	-
350 008	Plug	3	-
350 009	Plug	2	-
350 010	Pipe union	2	0.2
350 011	Damper	1	0.7
350 012	Screw	6	-
350 013	Control valve	1	0.6
350 112	Pipe union	2	-
350 129	Sealing ring	2	-
350 130	Sealing ring	5	-
350 131	Sealing ring	2	-
350 134	O-ring	1	-
107 058	Screw	4	-

Edition: E

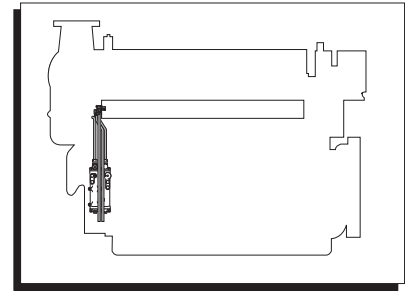
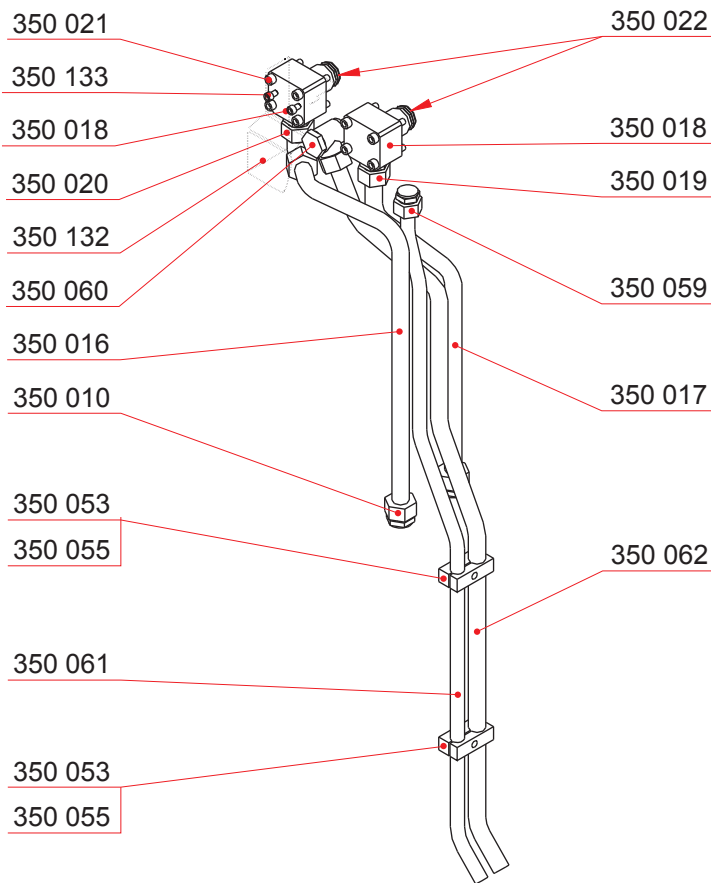
Page: 2(2)

Updated: 27.11.2001

Pulse damper for fuel oil

Part No.	Description	Qty [Pcs]	Wt. [Kg]
107 058	Screw	4	-
350 001	Housing	1	13.1
350 002	O-ring	4	-
350 003	Plug	1	-
350 004	Flange	2	0.6
350 005	Screw	16	-
350 006	Flange	1	-
350 007	Flange	1	-
350 008	Plug	3	-
350 009	Plug	2	-
350 010	Pipe union	2	0.2
350 011	Damper	1	0.7
350 012	Screw	6	-
350 013	Control valve	1	0.6
350 112	Pipe union	2	-
350 129	Sealing ring	2	-
350 130	Sealing ring	5	-
350 131	Sealing ring	2	-
350 134	O-ring	1	-

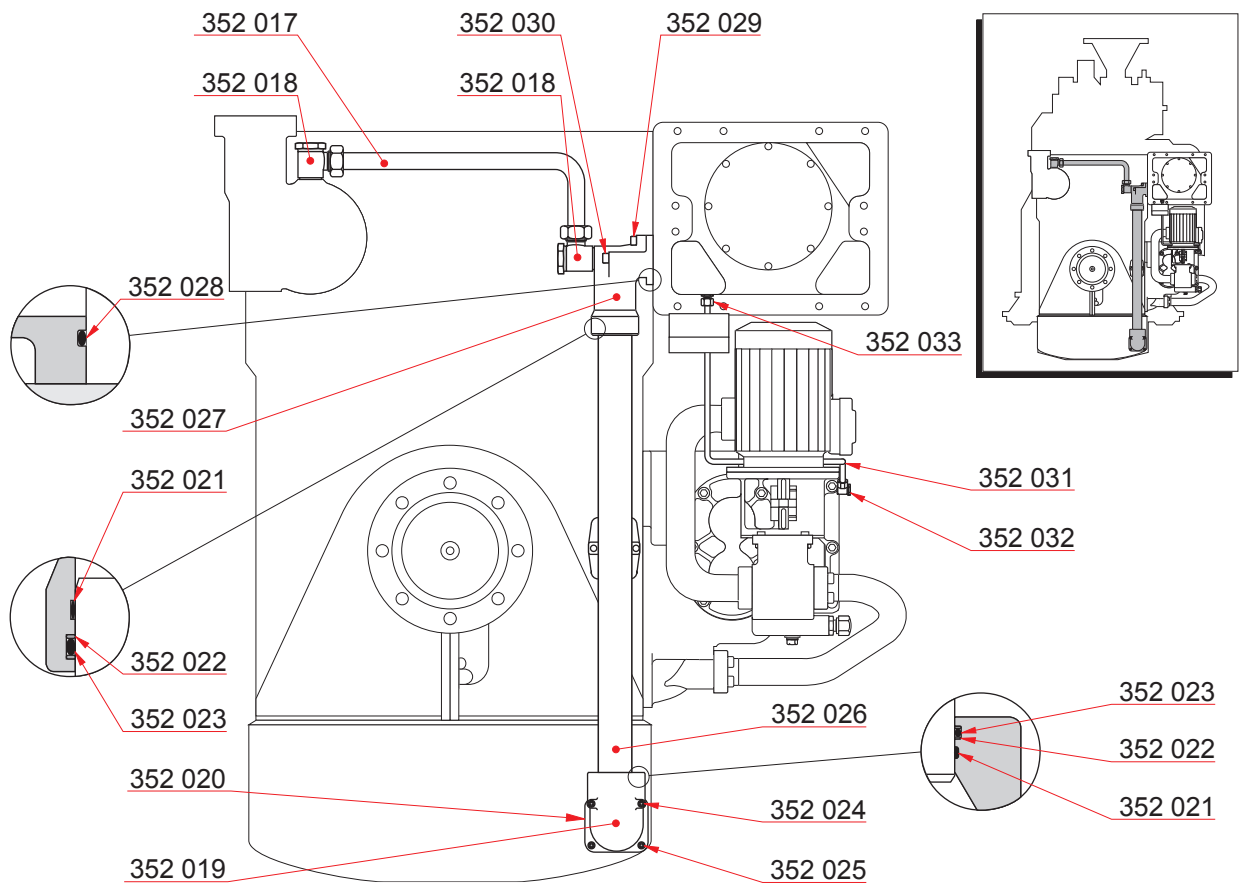
Fuel oil piping, free end



Part No.	Description	Qty [Pcs]	Wt. [Kg]
350 010	Pipe union	2	-
350 016	Pipe	1	0.6
350 017	Pipe	1	0.5
350 061	Pipe	1	0.6
350 062	Pipe	1	-
350 018	Flange	2	0.4
350 019	Pipe union	1	0.2
350 020	Pipe union	1	0.4
350 021	Screw	8	-
350 022	O-ring	2	-
350 053	Pipe clamp	2	-
350 055	Screw	2	-
350 059	Pipe union	1	-
350 060	Pipe union	1	0.4
350 132	Cover	1	1.1
350 133	Screw	4	-

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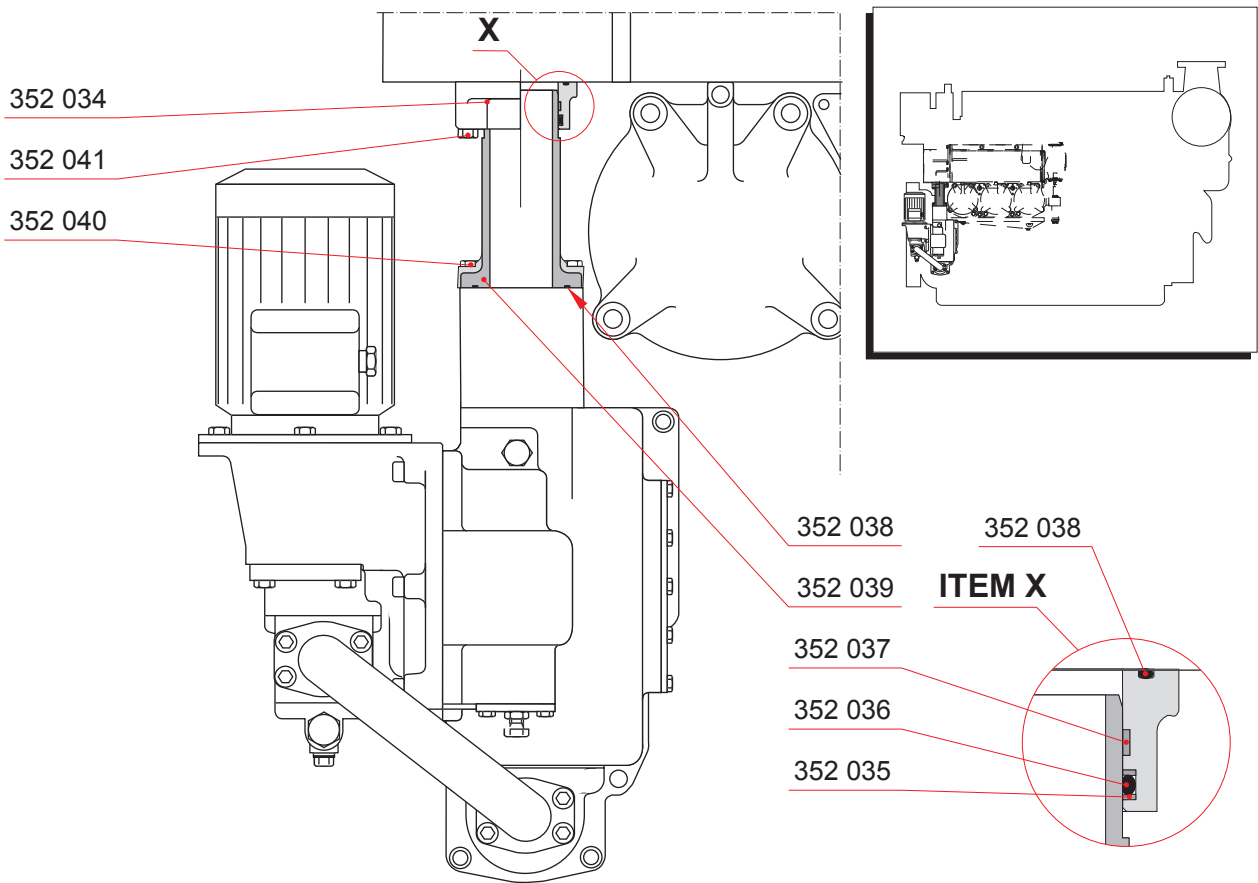
Lubricating oil piping in flywheel end



Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 017	Pipe	1	0.8
352 018	Pipe union	2	0.8
352 019	Bend	1	-
352 026	Pipe	1	2.3
352 027	Bend	1	-
352 031	Pipe	1	-
352 020	O-ring	1	-
352 021	Guide ring	2	-
352 022	Support ring	4	-
352 023	O-ring	2	-
352 024	Screw	2	0.1
352 025	Screw	2	-
352 028	O-ring	1	-
352 029	Screw	1	-
352 030	Screw	2	-
352 032	Pipe union	1	-
352 033	Pipe union	1	-

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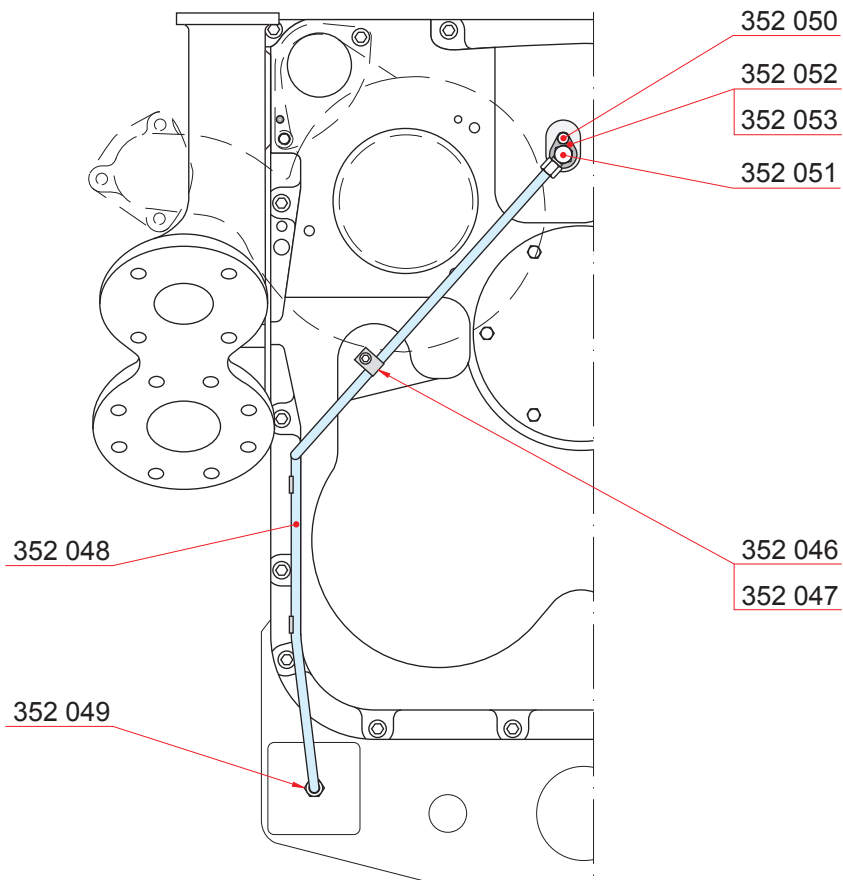
Lubricating oil pipe, pump - module



Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 034	Flange	1	1.7
352 039	Pipe	1	-
352 035	Support ring	2	-
352 036	O-ring	1	-
352 037	Guide ring	1	-
352 038	O-ring	2	-
352 040	Screw	4	-
352 041	Screw	4	-

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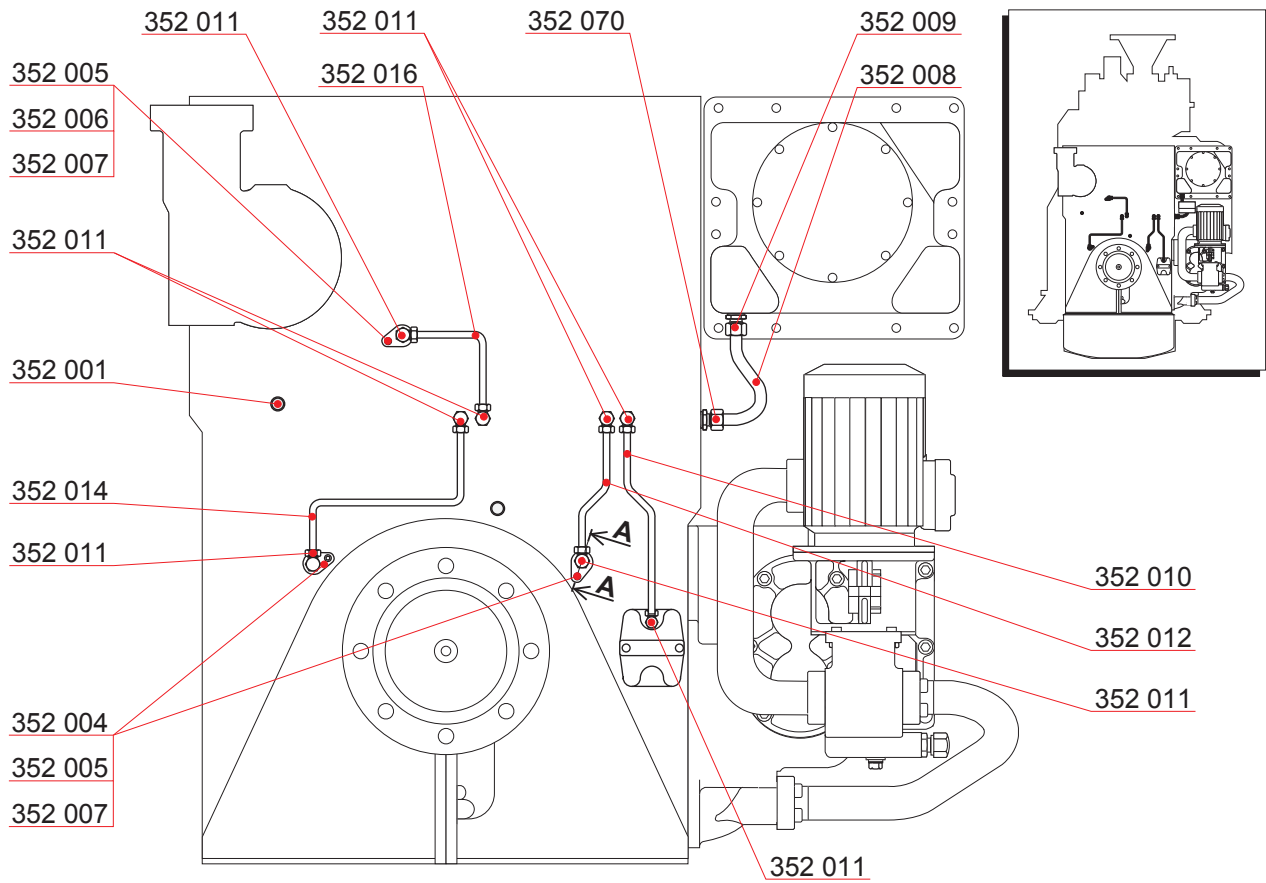
Lubricating oil pipe for water pumps



Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 046	Pipe clamp	3	-
352 048	Pipe	1	-
352 047	Screw	3	-
352 049	Pipe union	1	-
352 050	Screw	1	-
352 051	Pipe union	1	-
352 052	Oil nozzle	1	-
352 053	O-ring	1	-

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Lubricating oil piping for camshaft driving gear (cw.)

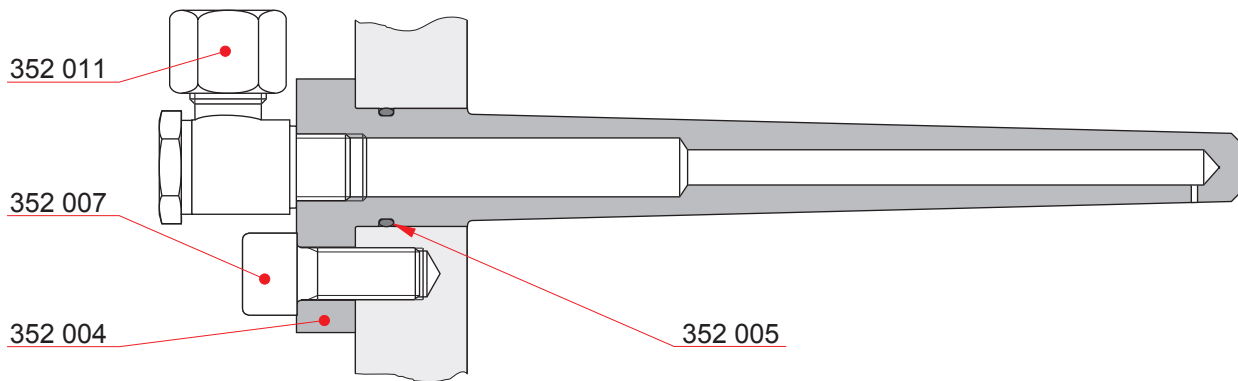


Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 001	Sealing push-in cap	2	-
352 008	Pipe	1	-
352 010	Pipe	1	-
352 012	Pipe	1	-
352 014	Pipe	1	-
352 016	Pipe	1	-
352 004	Oil nozzle	2	-
352 005	O-ring	3	-
352 006	Oil nozzle	1	-
352 007	Screw	3	-
352 009	Pipe union	1	-
352 011	Pipe union	8	-
352 070	Pipe union	1	-

Edition: B

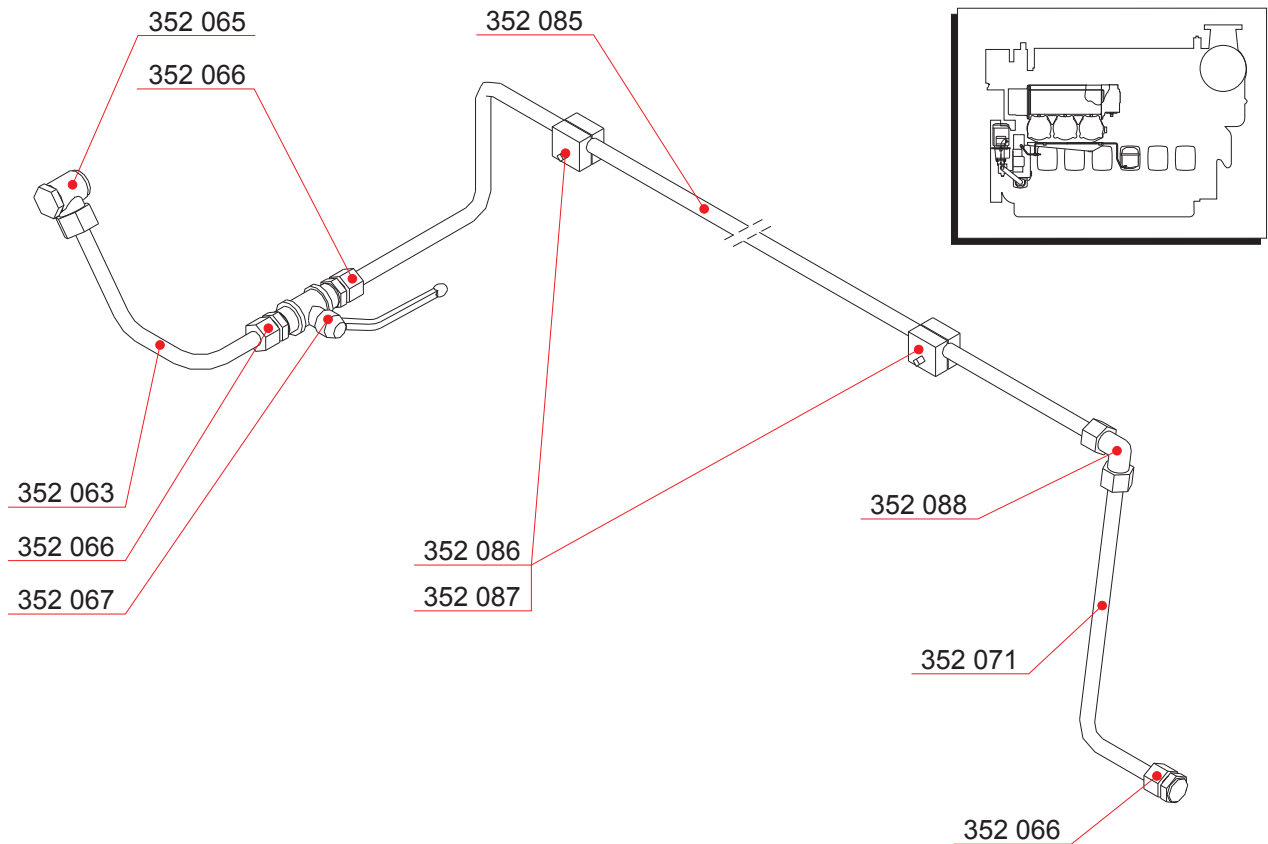
Page: 2(2)

Updated: 21.05.1994

Lubricating oil piping for camshaft driving gear (cw.)**SECTION A-A**

Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 004	Oil nozzle	1	-
352 005	O-ring	1	-
352 007	Screw	1	-
352 011	Pipe union	1	-

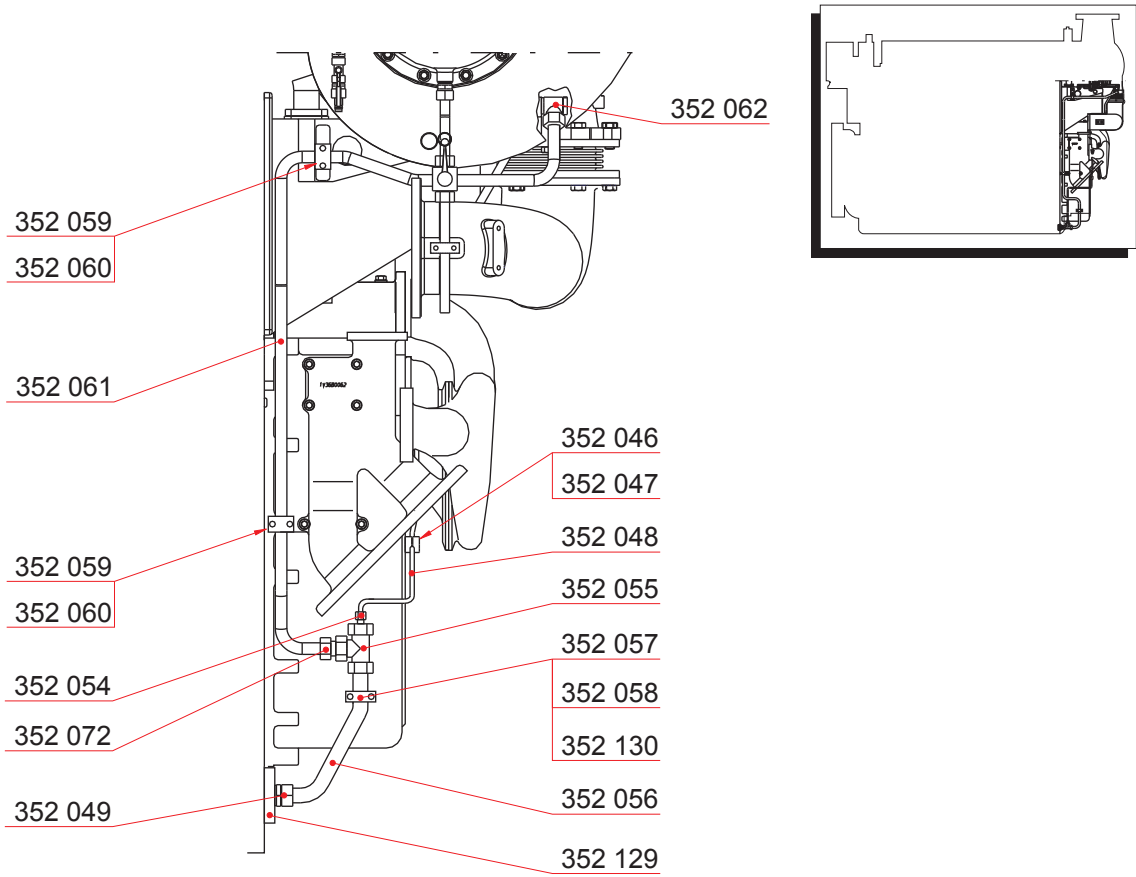
Oil piping to centrifugal filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 063	Pipe	1	-
352 065	Pipe union	1	0.2
352 071	Pipe	1	-
352 085	Pipe	1	0.6
352 066	Pipe union	3	-
352 067	Ball valve	1	0.3
352 086	Pipe clamp	2	-
352 087	Screw	2	-
352 088	Pipe union	1	-

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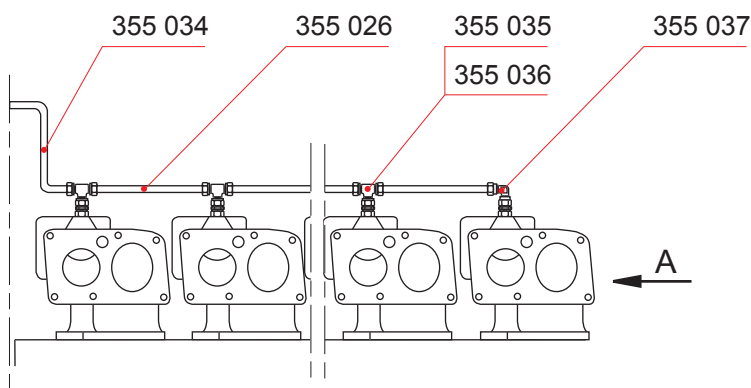
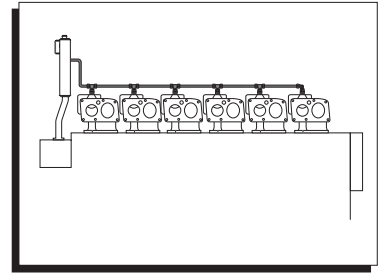
Lubricating oil piping in free end



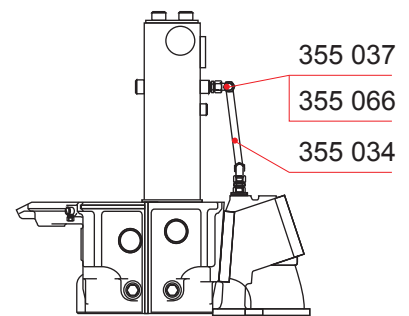
Part No.	Description	Qty [Pcs]	Wt. [Kg]
352 046	Pipe clamp	2	-
352 048	Pipe	1	0.2
352 056	Pipe	1	0.4
352 061	Pipe	1	1.6
352 047	Screw	1	-
352 049	Pipe union	1	0.3
352 054	Pipe union	1	0.1
352 055	Pipe union	1	0.6
352 057	Pipe clamp	1	-
352 058	Screw	2	-
352 059	Pipe clamp	4	-
352 060	Screw	4	-
352 062	Pipe union	1	0.4
352 072	Pipe union	1	0.3
352 129	Flange	1	1.5
352 130	Distance piece	1	0.1

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Vent piping from multiducts



VIEW A



Part No.	Description	Qty [Pcs]	Wt. [Kg]
355 026	Pipe	*	0.1
355 034	Pipe	1	0.1
355 035	Pipe union	*	-
355 036	Pipe union	*	0.1
355 037	Pipe union	*	0.1
355 066	Pipe union	*	-

NOTE! * see next page.

Edition: G

Page: 2(2)

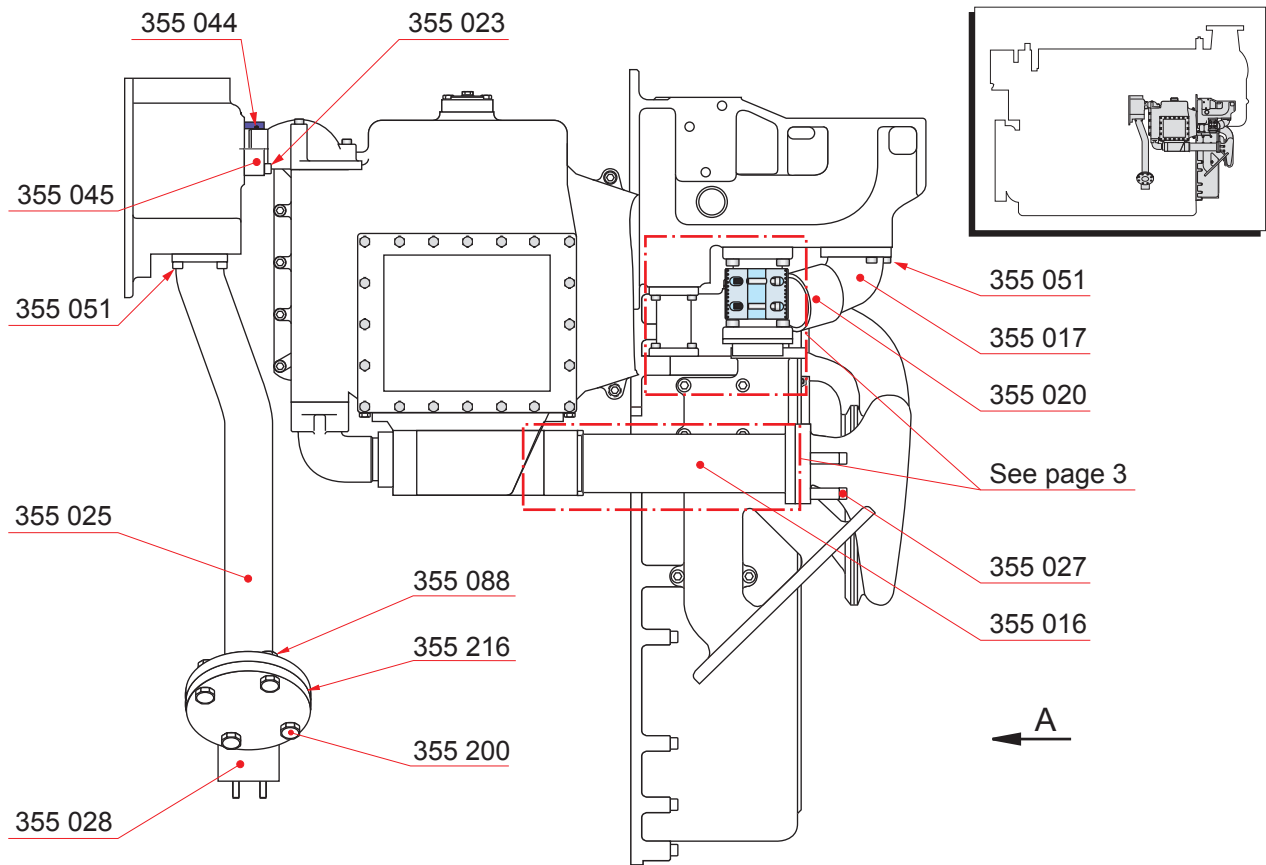
Updated: 08.05.2000

Vent piping from multiducts

Quantity according to number of cylinders

Part No	Pieces				
	4L20	5L20	6L20	8L20	9L20
355 026	3	4	5	7	8
355 035	3	4	5	7	8
355 036	3	4	5	7	8
355 037	1	1	2	2	2
355 066	1	1	-	-	-

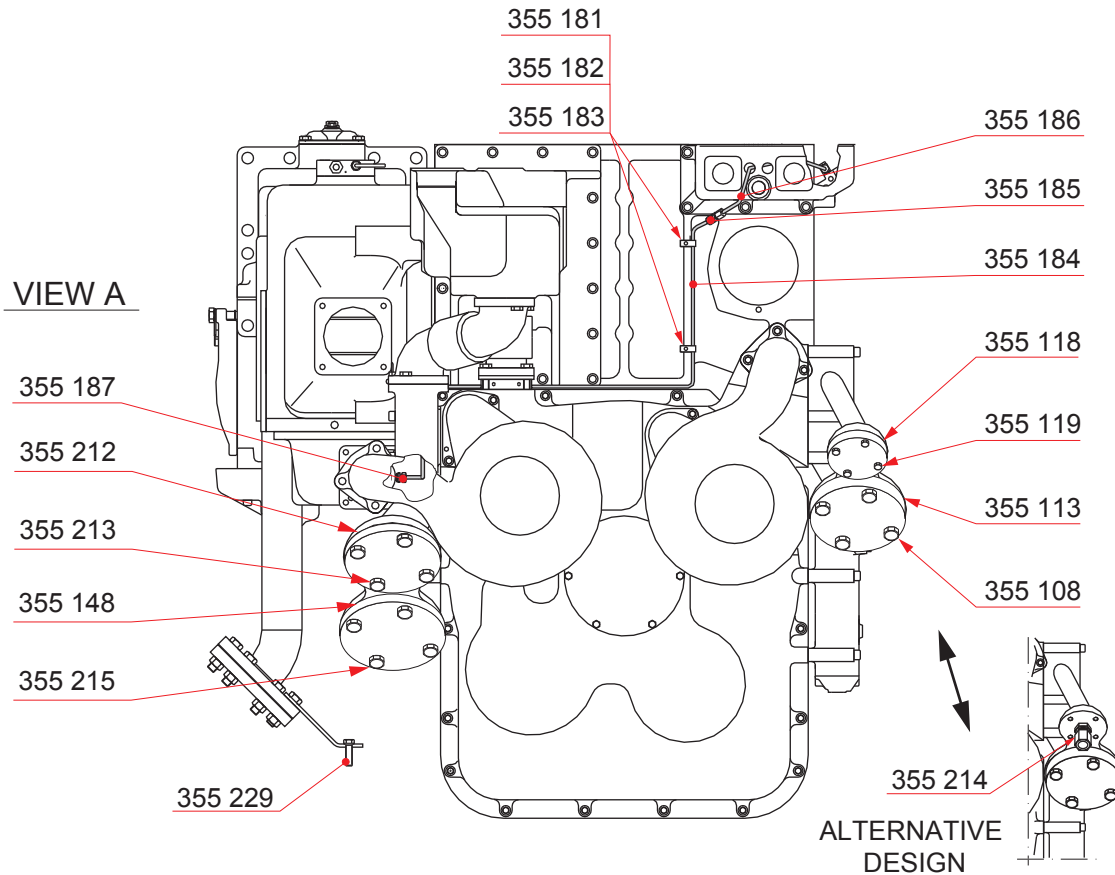
Water pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]
355 016	Pipe	1	-
355 017	Bend	2	-
355 020	Flexible coupling	1	-
355 023	Screw	4	-
355 025	Pipe	1	-
355 027	Screw	3	-
355 028	Support	3	-
355 044	O-ring	1	-
355 045	Flange	1	-
355 051	Screw	14	-
355 088	Nut	4	-
355 200	Screw	4	-
355 216	Seal	1	-

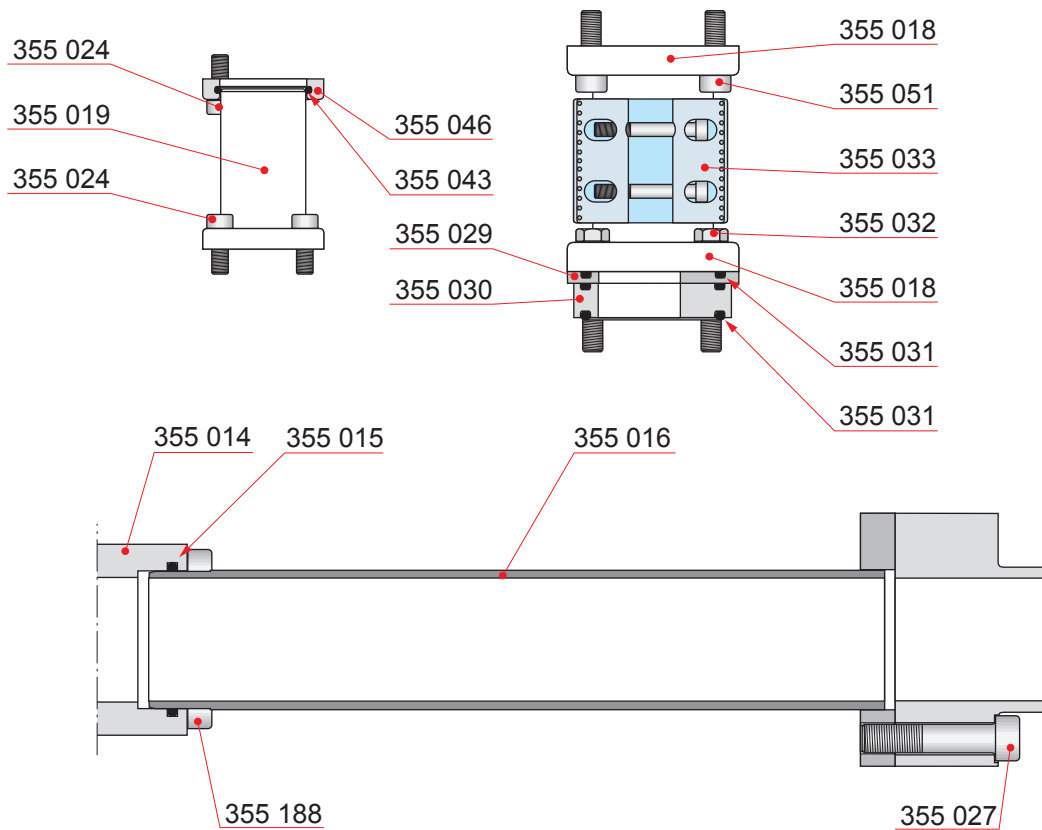
Edition: D
 Page: 2(3)
 Updated: 03.12.2004

Water pipes



Part No.	Description	Qty [Pcs]	Wt. [Kg]
355 108	Screw	4	-
355 113	Gasket	1	-
355 118	Gasket	1	-
355 119	Screw	4	-
355 148	Gasket	1	-
355 181	Pin	4	-
355 182	Pipe clamp	2	-
355 183	Screw	2	-
355 184	Pipe	1	-
355 185	Pipe union	1	-
355 186	Pipe	1	-
355 187	Pipe union	1	-
355 212	Seal	1	-
355 213	Screw	4	-
355 214	Pipe union	1	-
355 215	Screw	4	-
355 229	Screw	2	-

Water pipes

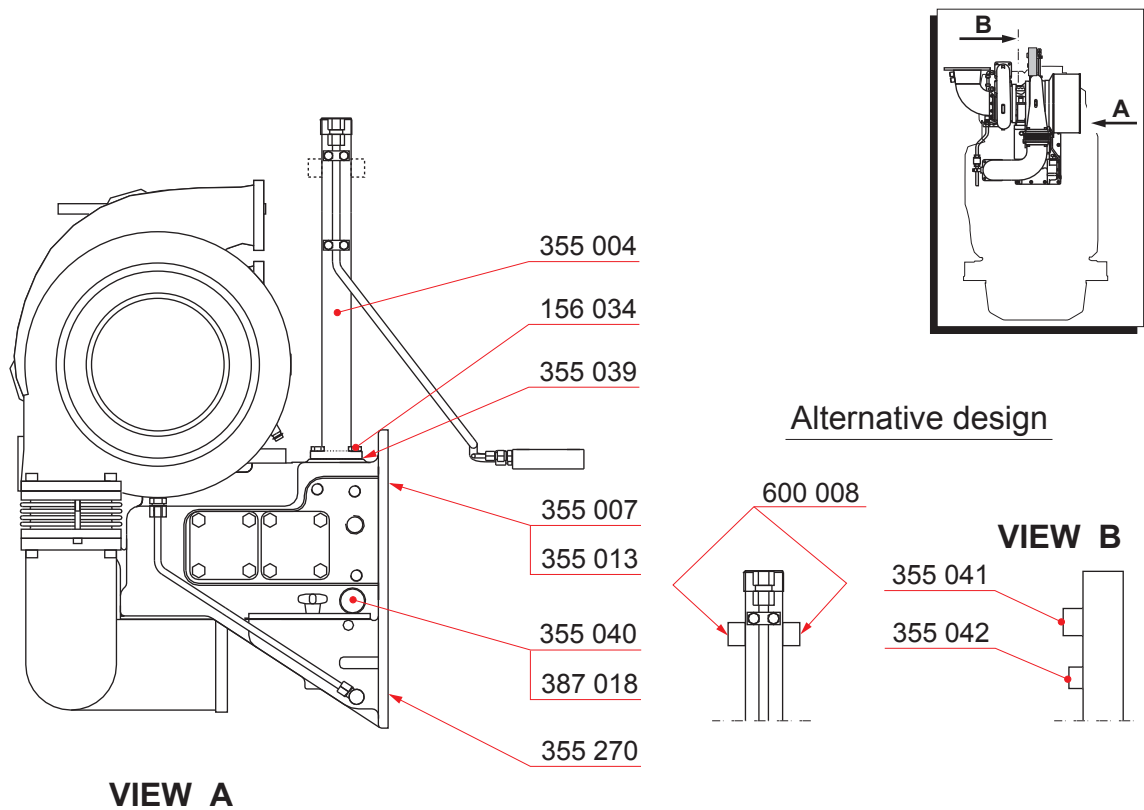


Part No.	Description	Qty [Pcs]	Wt. [Kg]
355 014	Flange	1	-
355 015	O-ring	1	-
355 016	Pipe	1	-
355 018	Pipe	2	-
355 019	Pipe (1)	1	-
355 024	Screw	8	-
355 027	Screw	3	-
355 029	Throttle flange	1	-
355 030	Throttle flange	1	-
355 031	O-ring	3	-
355 032	Screw	4	-
355 033	Flexible coupling	1	-
355 043	O-ring	1	-
355 046	Flange	1	-
355 051	Screw	4	-
355 188	Screw	4	-

NOTE! (1) Return oil pipe for turbocharger.

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Cooling water piping on TC bracket assembly

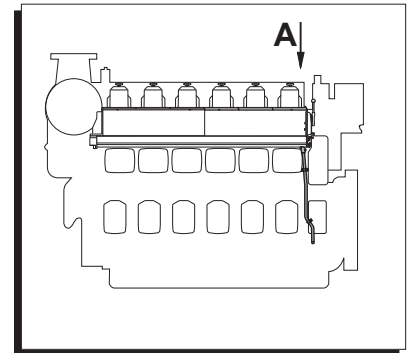
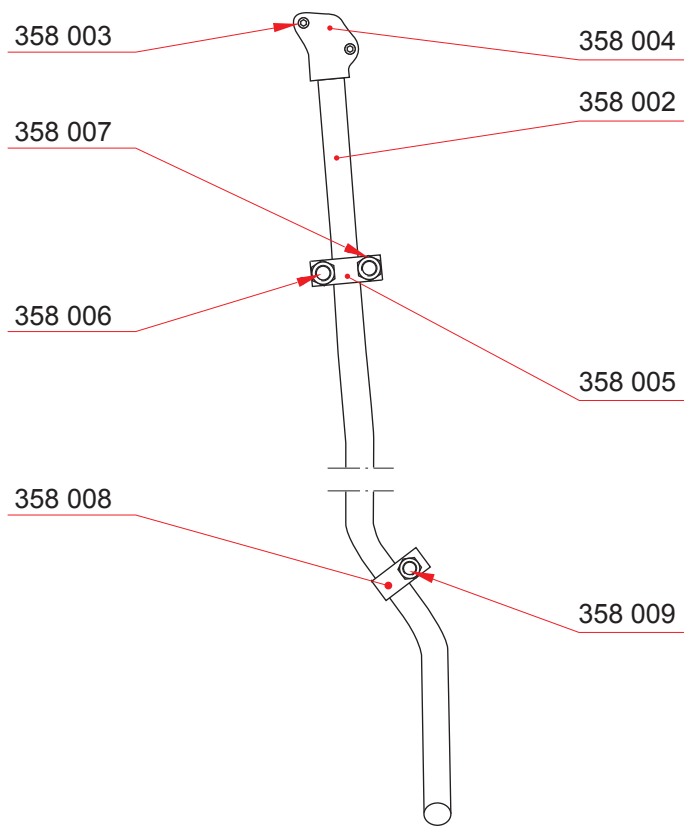


Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 034	Screw	4	-
355 004	Pipe	1	-
355 007	O-ring	1	-
355 013	O-ring	1	-
355 039	Gasket	1	-
355 040	Sealing push-in cap	1	-
355 041	Plug	1	-
355 042	Plug	1	-
355 270	O-ring (1)	1	-
600 008	Plug	1	-
387 018	Glue compound	1	-

NOTE! (1) Only in LF-engine.

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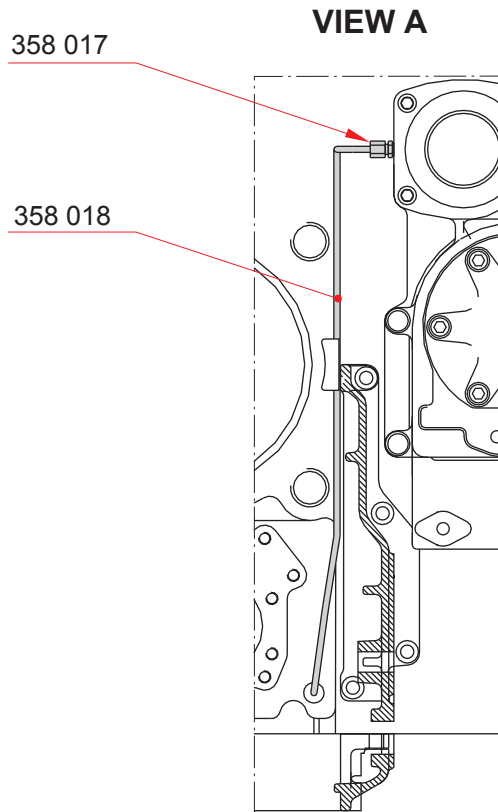
Leak oil pipe, dirty, flywheel end



Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 002	Leak oil pipe	1	-
358 003	Screw	2	-
358 006	Screw	2	-
358 007	Nut	2	-
358 009	Screw	1	-
358 004	O-ring	1	-
358 005	Pipe clamp	1	0.2
358 008	Pipe clamp	1	-

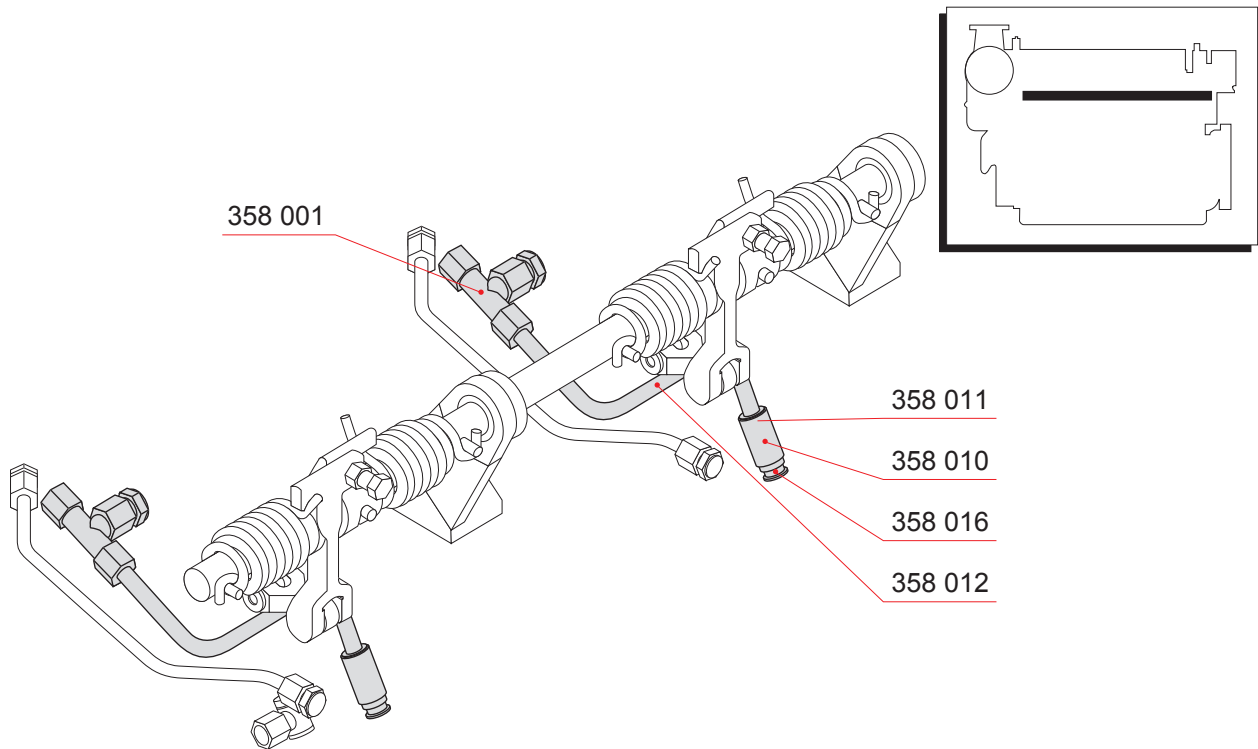
Edition: B
Page: 2(2)
Updated: 29.07.1996

Leak oil pipe, dirty, flywheel end



Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 017	Pipe union	1	-
358 018	Leak oil pipe	1	-

Leak oil piping for injection pump / valve, clean



Part No.	Description	Qty [Pcs]	Wt. [Kg]
358 001	Pipe union	*	0.1
358 010	Connection piece	*	-
358 011	O-ring	*	-
358 012	Leak oil pipe	*	-
358 016	O-ring	*	-

NOTE! * See page 2

Edition: D

Page: 2(2)

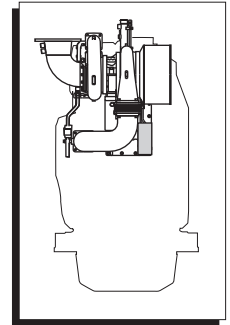
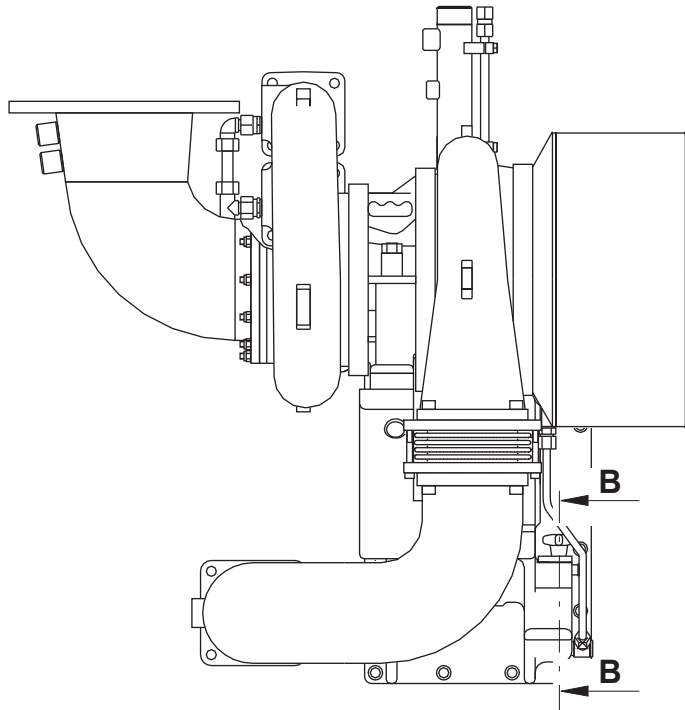
Updated: 12.02.1996

Leak oil piping for injection pump / valve, clean

Quantity according to number of cylinders

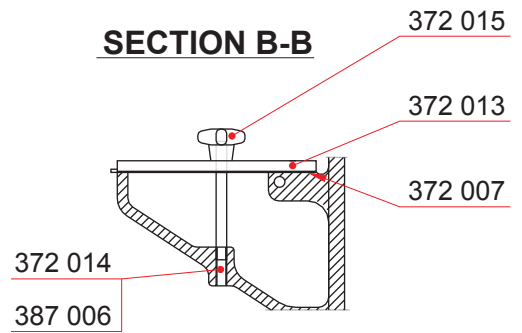
Part No	Pieces					
	3L20	4L20	5L20	6L20	8L20	9L20
358 001	3	4	5	6	8	9
358 010	3	4	5	6	8	9
358 011	3	4	5	6	8	9
358 012	3	4	5	6	8	9
358 016	3	4	5	6	8	9

Cleaning device for compressor



A

SECTION B-B

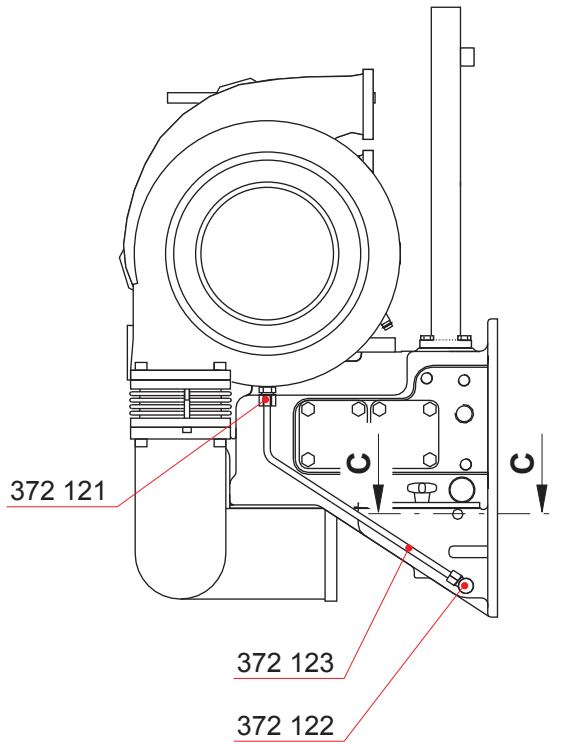


Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 007	Gasket	1	-
372 013	Cover	1	-
372 014	Screw	1	-
372 015	Handle	1	-
387 006	Glue compound	1	-

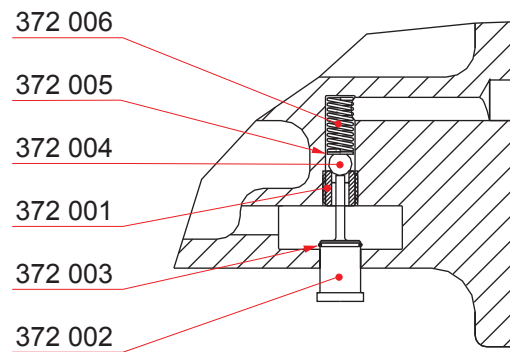
Edition: B
 Page: 2(2)
 Updated: 05.05.2000

Cleaning device for compressor

VIEW A

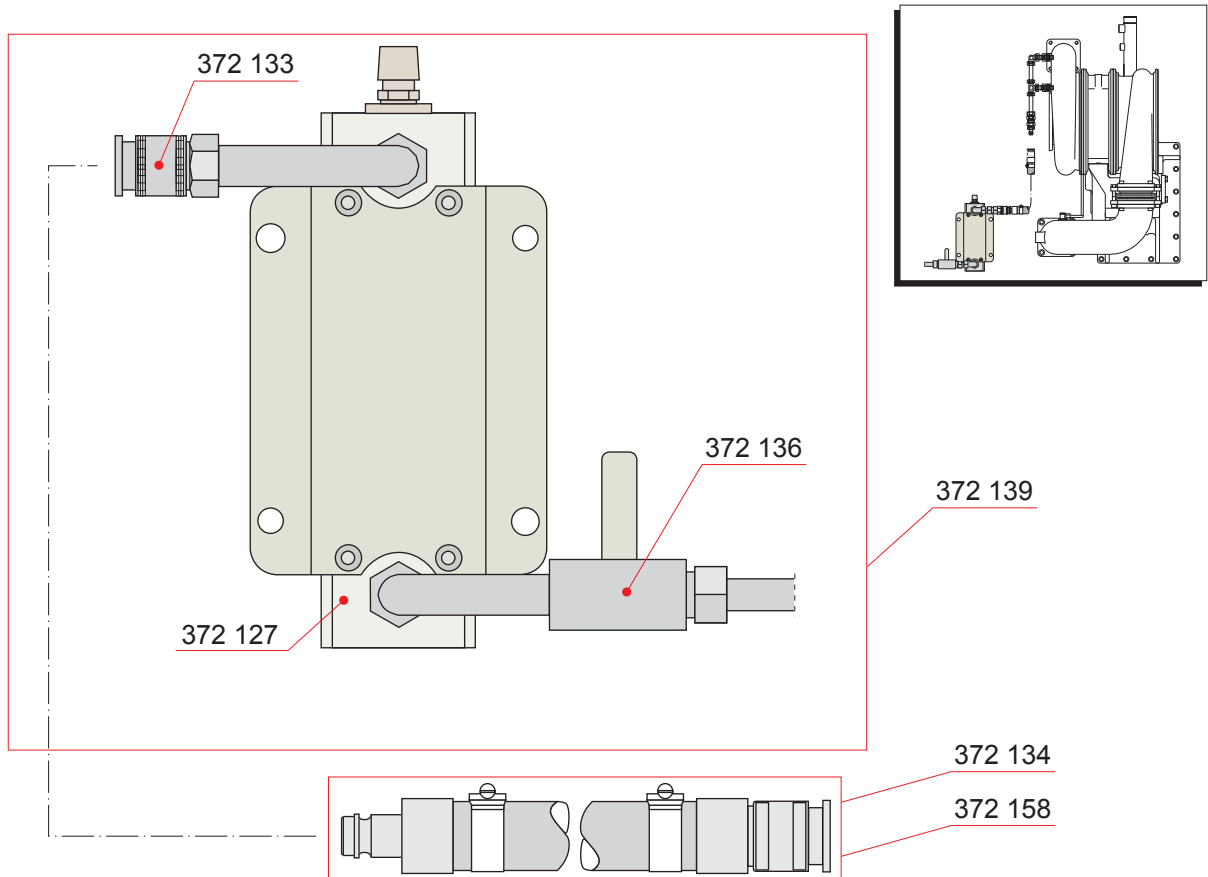


SECTION C-C



Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 001	Seat	1	-
372 002	Spindle	1	-
372 003	Snap ring	1	-
372 004	Bearing ball	1	-
372 005	Washer	1	-
372 006	Spring	1	-
372 121	Pipe union	1	-
372 122	Pipe union	1	-
372 123	Pipe	1	-

Washing device for turbine with flowmeter



Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 139	Dosing unit	1	3.1
372 127	Flow meter	1	0.7
372 133	Quick coupling	1	0.1
372 136	Ball valve	1	0.1
372 134	Hose (1)	1	3.0
372 158	Hose (2)	1	-

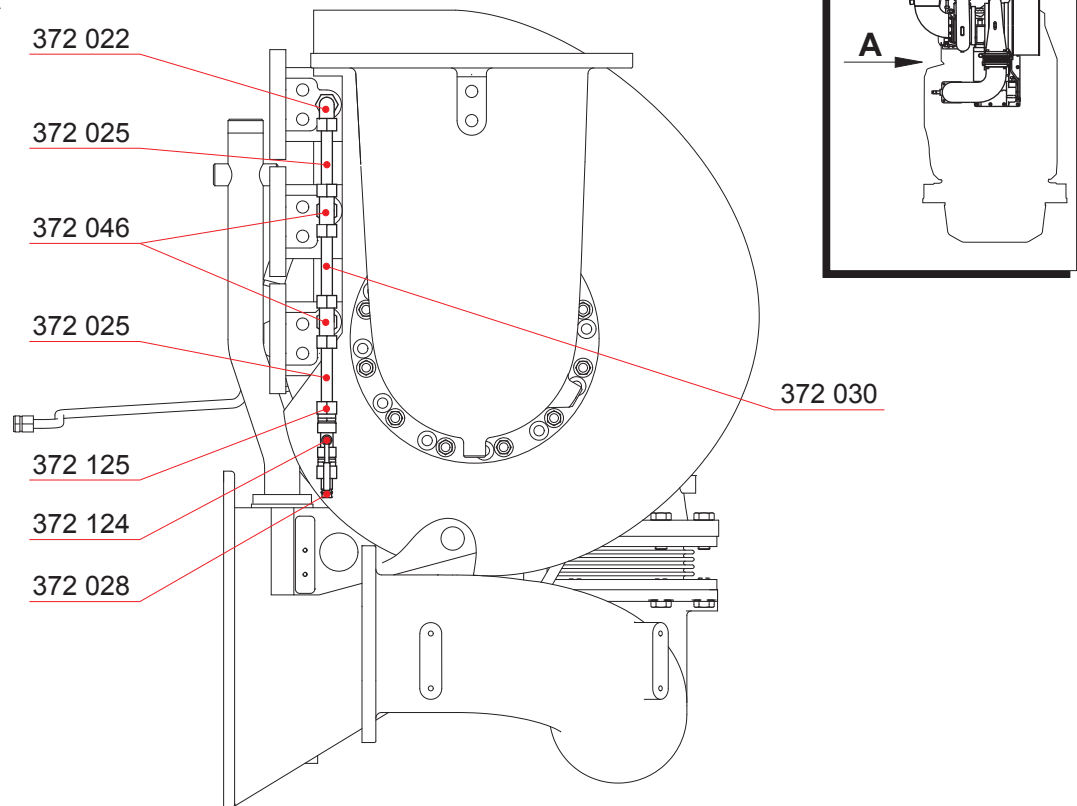
NOTE! (1) L= 10m

NOTE! (2) L= 20m

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Cleaning device piping for turbine

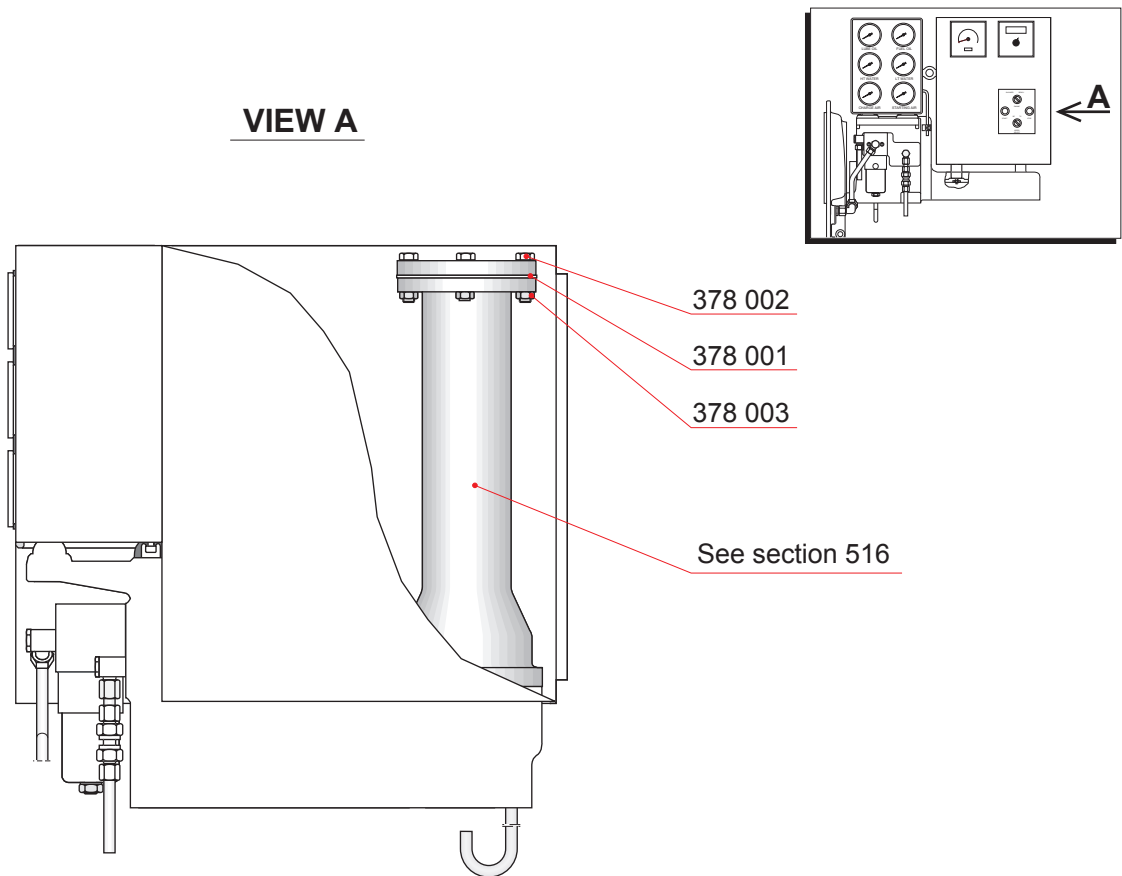
VIEW A



Part No.	Description	Qty [Pcs]	Wt. [Kg]
372 022	Pipe union	1	-
372 025	Pipe	1	-
372 028	Adapter	1	-
372 030	Pipe	1	-
372 046	Pipe union	2	-
372 124	Ball valve	1	-
372 125	Pipe union	1	-

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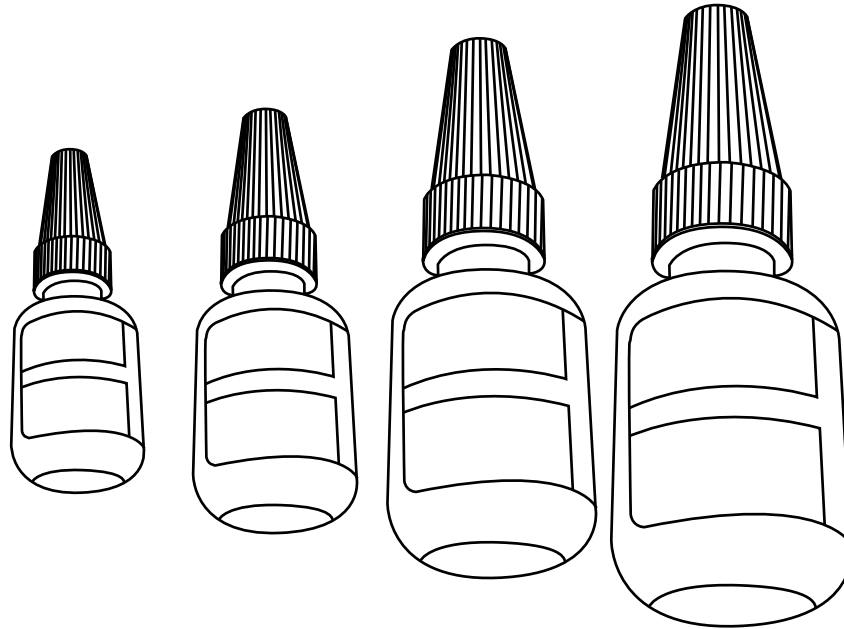
Sealing for crankcase breather



Part No.	Description	Qty [Pcs]	Wt. [Kg]
378 001	Gasket	1	-
378 002	Screw	4	-
378 003	Nut	4	-

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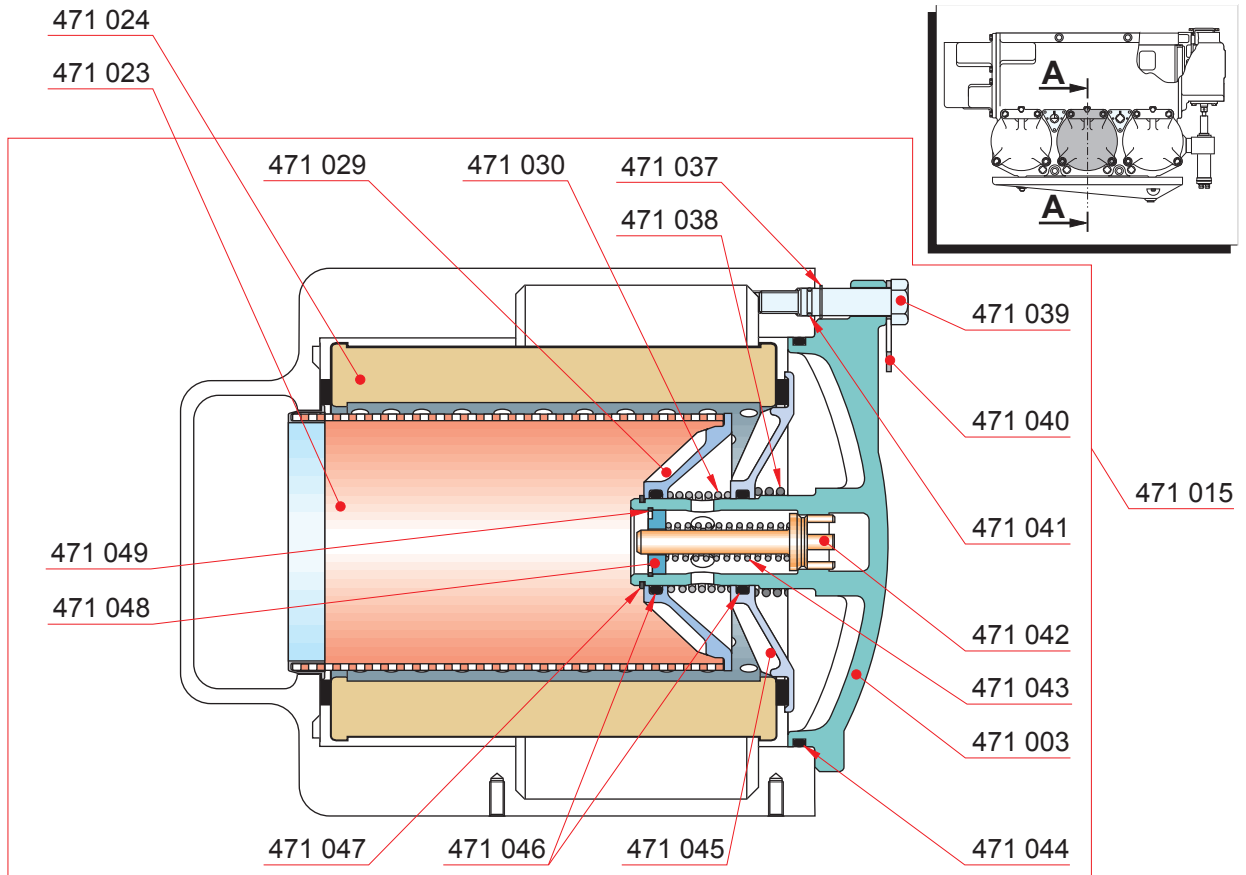
Glue compounds



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
387 001	Glue compound	1	-	387 024	Glue compound	1	-
387 002	Glue compound	1	-	387 025	Glue compound	1	-
387 003	Glue compound	1	-	387 026	Glue compound	1	-
387 004	Glue compound	1	-	387 027	Glue compound	1	-
387 005	Glue compound	1	-	387 028	Glue compound	1	-
387 006	Glue compound	1	-	387 029	Glue compound	1	-
387 007	Glue compound	1	-	387 030	Glue compound	1	-
387 008	Glue compound	1	-	387 031	Glue compound	1	-
387 009	Glue compound	1	-	387 032	Glue compound	1	-
387 010	Glue compound	1	-	387 033	Glue compound	1	-
387 011	Glue compound	1	-	387 034	Glue compound	1	-
387 012	Glue compound	1	-	387 035	Glue compound	1	-
387 013	Glue compound	1	-				
387 014	Glue compound	1	-	NOTE!	When ordering glue compounds, use spare part numbers that mentioned in sections.		
387 015	Glue compound	1	-				
387 016	Glue compound	1	-				
387 017	Glue compound	1	-				
387 018	Glue compound	1	-				
387 019	Glue compound	1	-				
387 020	Glue compound	1	-				
387 021	Contact lubrication	1	-				
387 022	Contact lubrication	1	-				
387 023	Contact lubrication	1	-				

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Cover assembly

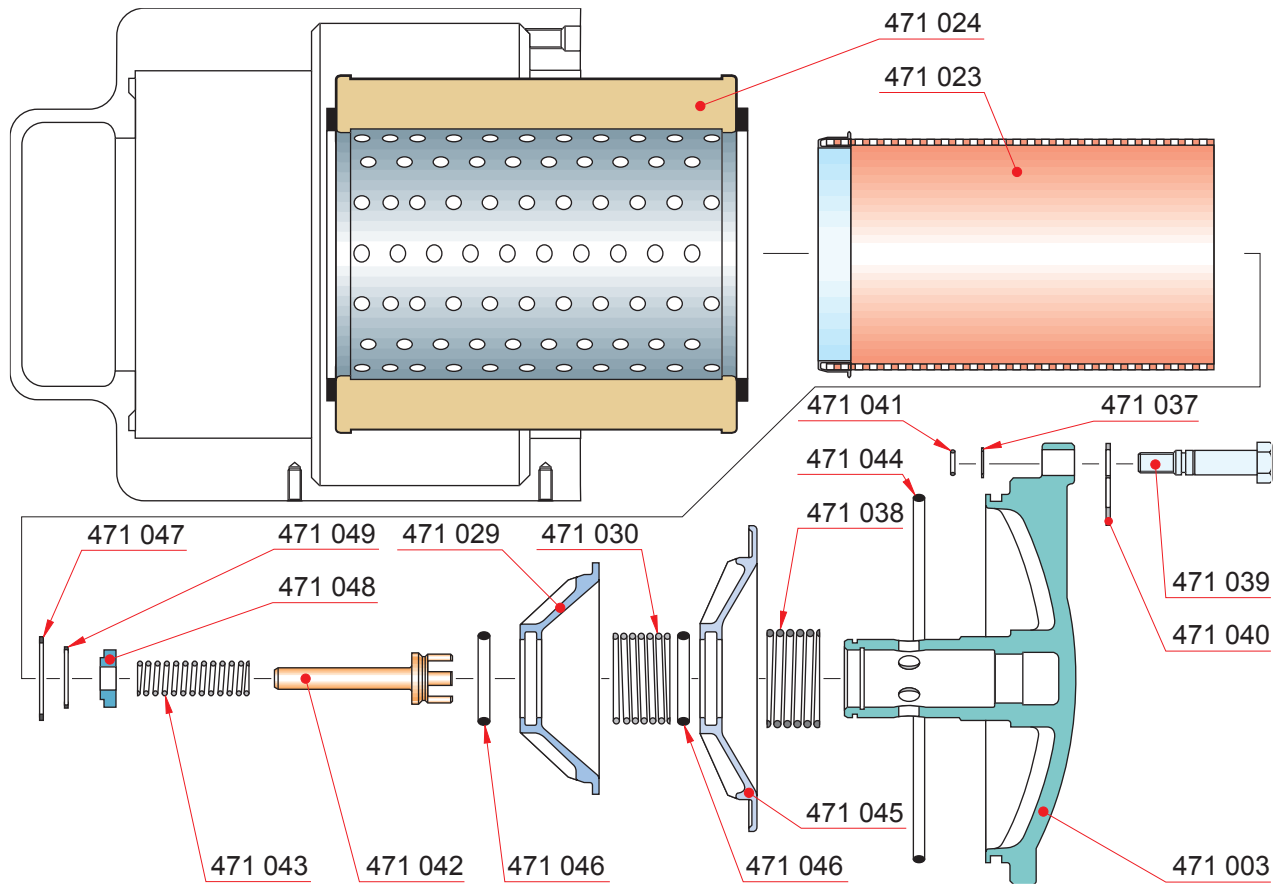


Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 015	Cover assembly	3	8.8
471 003	Cover	1	7.2
471 029	Holder	1	0.4
471 030	Spring	1	-
471 037	Retainer ring	1	-
471 038	Spring	1	0.1
471 039	Venting screw	1	0.1
471 040	Safety plate	1	0.3
471 041	O-ring	1	-
471 042	Valve stem	1	0.2
471 043	Spring	1	-
471 044	O-ring	1	-
471 045	Holder	1	0.5
471 046	O-ring	2	-
471 047	Retainer ring	1	-
471 048	Guide plug	1	0.3
471 049	Retainer ring	1	-
471 023	Safety filter	1	-
471 024	Filter cartridge	1	-

Edition: A

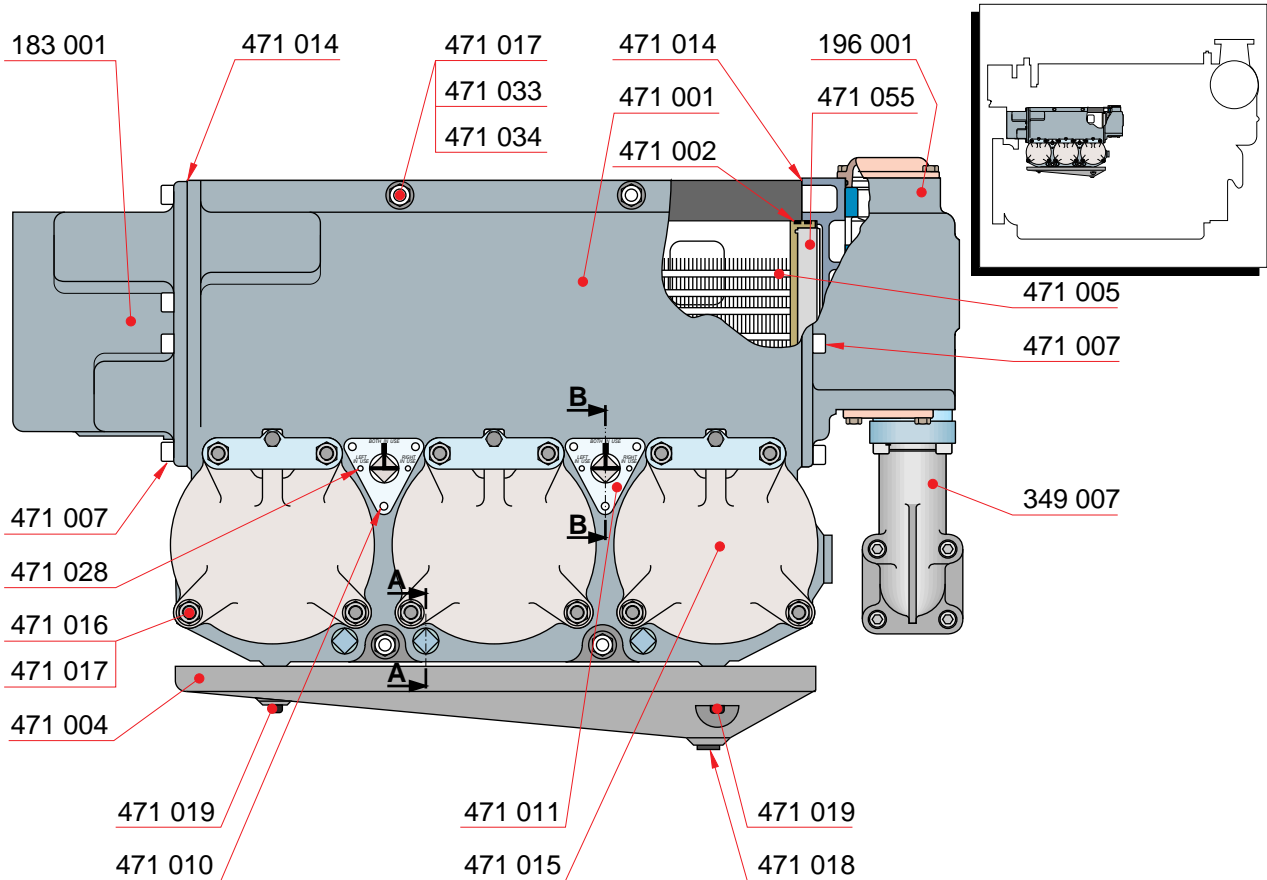
Page: 2(2)

Updated: 29.10.1993

Cover assembly

Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 003	Cover	1	7.2
471 023	Safety filter	1	-
471 024	Filter cartridge	1	-
471 029	Holder	1	0.4
471 030	Spring	1	-
471 037	Retainer ring	1	-
471 038	Spring	1	0.1
471 039	Venting screw	1	0.1
471 040	Safety plate	1	0.3
471 041	O-ring	1	-
471 042	Valve stem	1	0.2
471 043	Spring	1	-
471 044	O-ring	1	-
471 045	Holder	1	0.5
471 046	O-ring	2	-
471 047	Retainer ring	1	-
471 048	Guide plug	1	0.3
471 049	Retainer ring	1	-

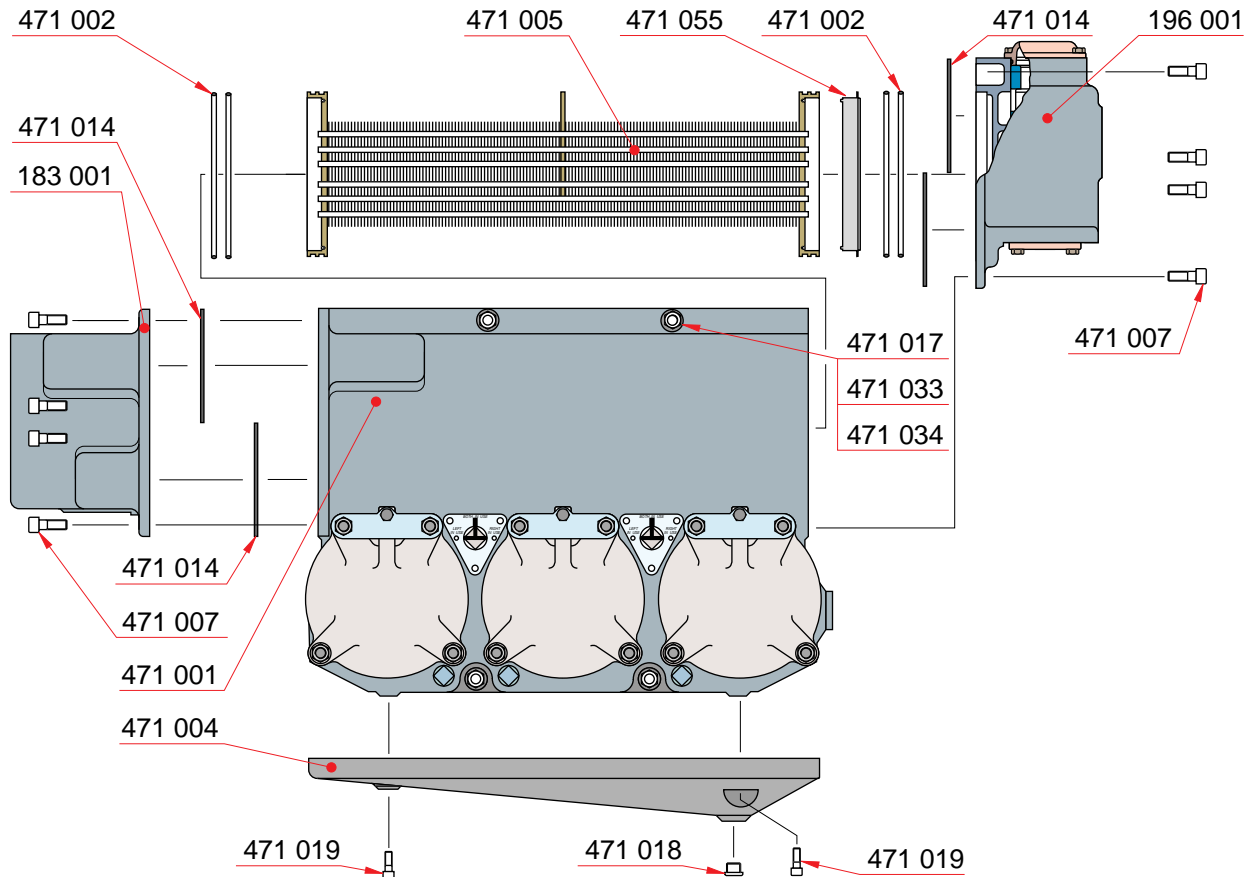
Lubricating oil module



Part No.	Description	Qty [Pcs]	Wt. [Kg]
183 001	Thermostatic valve for lube oil	1	-
471 011	Cover	2	0.6
471 017	Nut	16	-
471 018	Plug	1	-
471 019	Screw	4	-
471 033	Screw	4	0.4
196 001	Thermostatic valve for LT	1	-
349 007	LT water pipe with throttle (1)	1	-
471 001	Housing	1	96.0
471 004	Drop pot	1	12.0
471 005	Tube stack	1	46.5
471 002	O-ring	4	-
471 055	Dam	1	0.2
471 007	Screw	24	-
471 010	Screw	14	-
471 014	Gasket	8	0.1
471 015	Cover assembly (2)	3	8.8
471 016	Screw	12	0.1
471 028	Spring pin	6	-
471 034	Washer	4	-

Edition: B
Page: 2(5)
Updated: 28.11.2001

Lubricating oil module

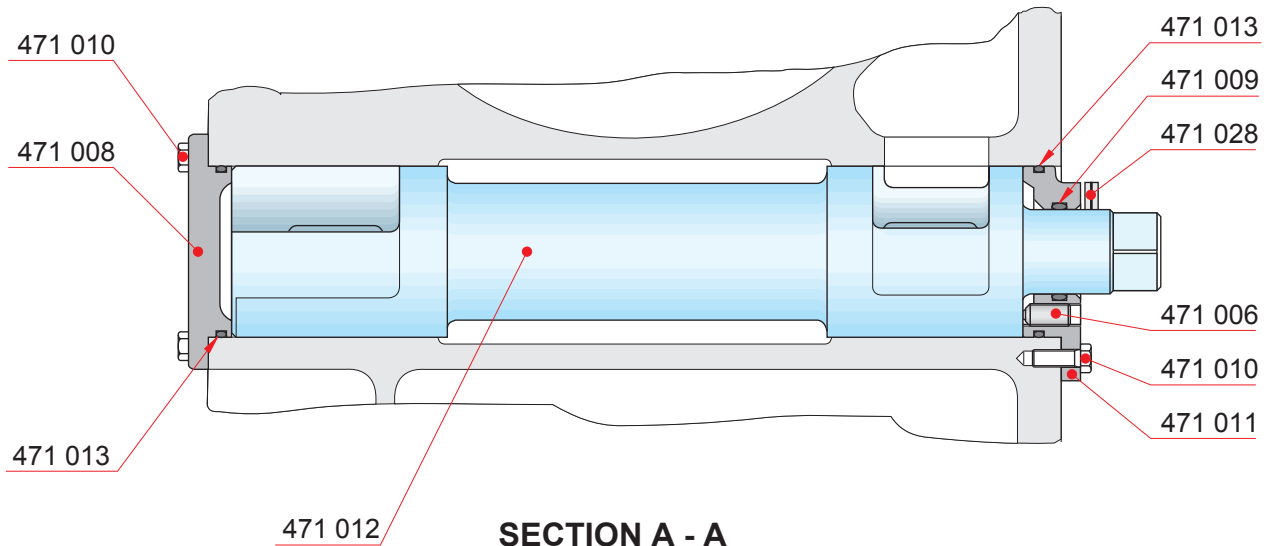


Part No.	Description	Qty [Pcs]	Wt. [Kg]
183 001	Thermostatic valve for lube oil	1	-
196 001	Thermostatic valve for LT	1	-
471 001	Housing	1	96.0
471 002	O-ring	4	-
471 004	Drop pot	1	12.0
471 005	Tube stack	1	46.5
471 007	Screw	24	-
471 014	Gasket	8	0.1
471 017	Nut	16	-
471 018	Plug	1	-
471 019	Screw	4	-
471 033	Screw	4	0.4
471 034	Washer	4	-
471 055	Dam	1	0.2

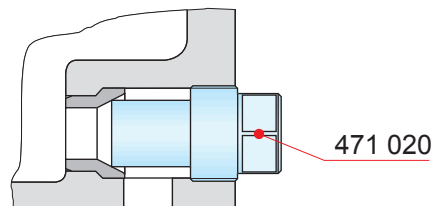
NOTE! (1) See section 349. (2) See detailed picture later in this section 471.

Lubricating oil module

SECTION B - B



SECTION A - A

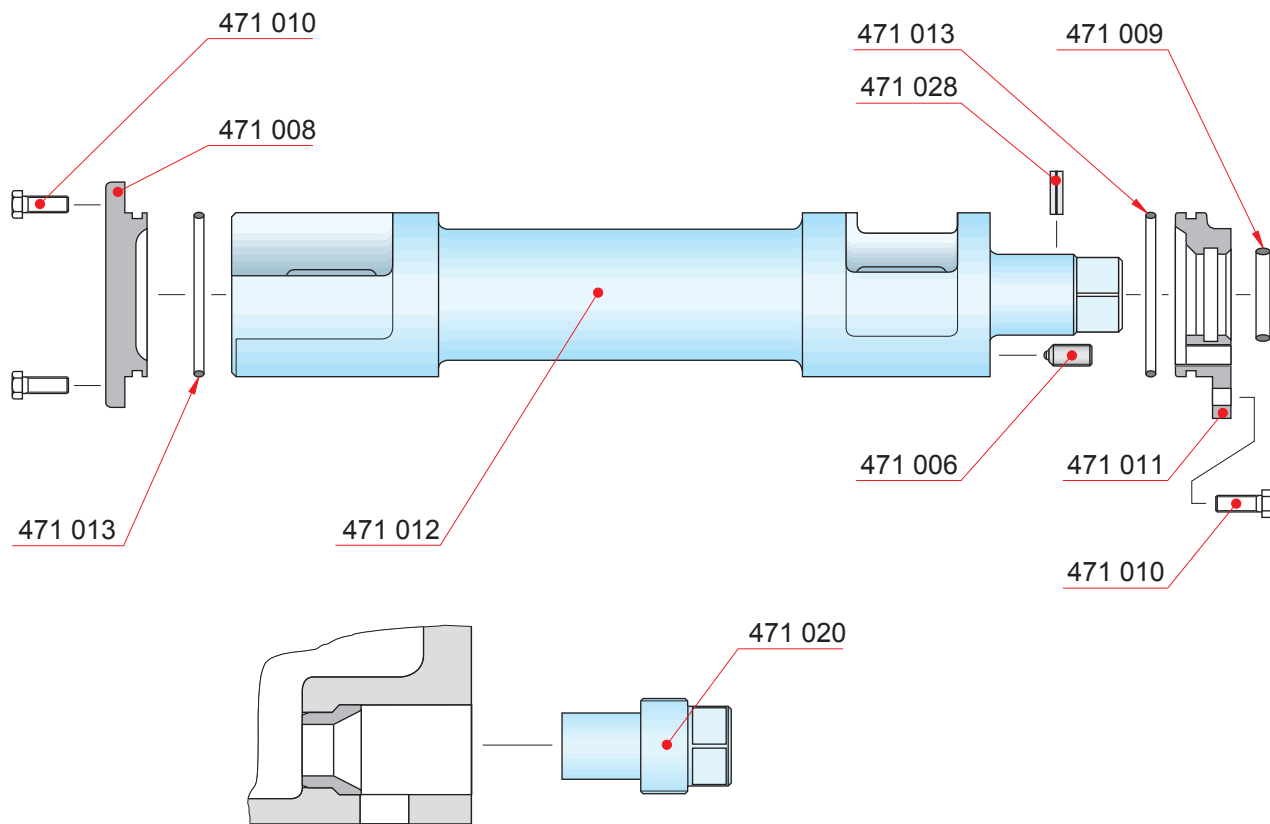


Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 006	Spring plunger	1	-
471 010	Screw	14	-
471 011	Cover	2	0.6
471 008	Flange	1	0.8
471 009	O-ring	1	-
471 012	Three-way valve stem	1	6.8
471 013	O-ring	2	-
471 020	Valve stem for drain valve	1	0.2
471 028	Spring pin	3	-

Edition: B

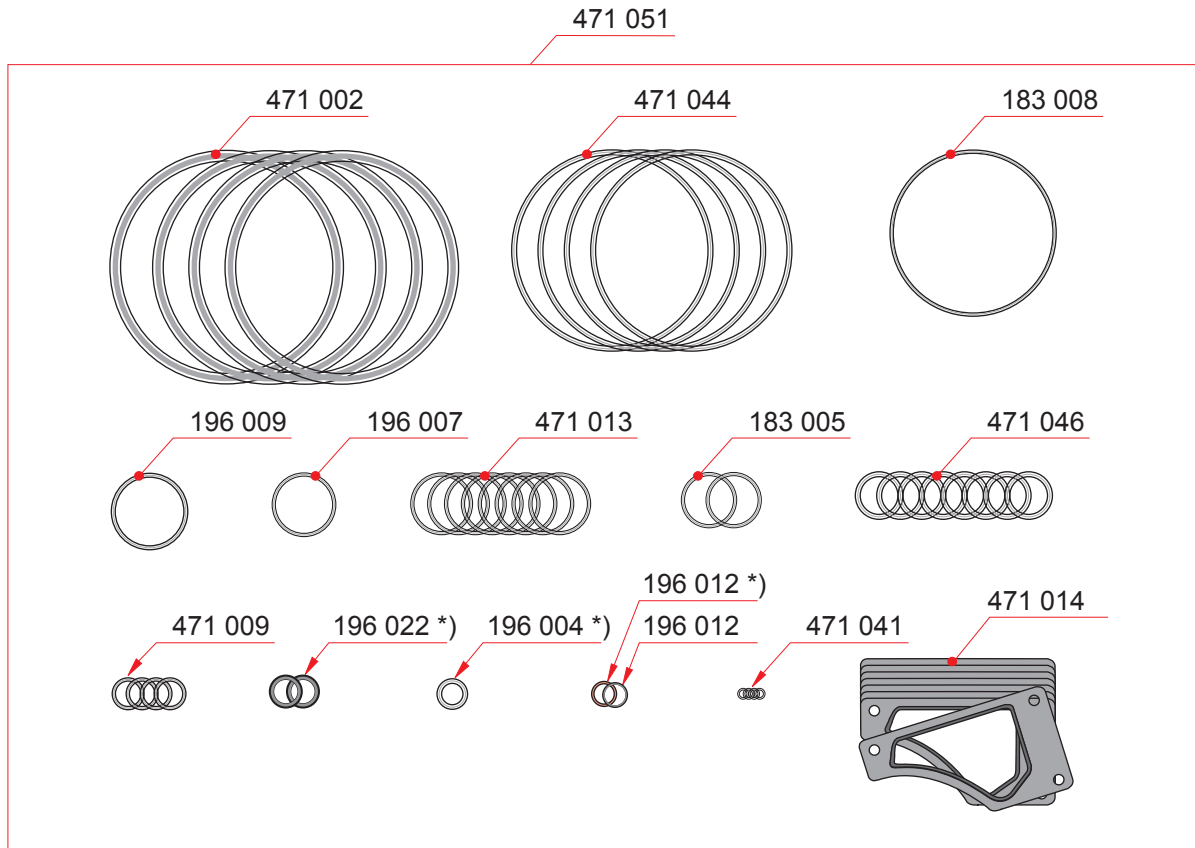
Page: 4(5)

Updated: 28.11.2001

Lubricating oil module

Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 006	Spring plunger	2	-
471 008	Flange	2	0.8
471 009	O-ring	2	-
471 010	Screw	14	-
471 011	Cover	2	0.6
471 012	Three-way valve stem	2	6.8
471 013	O-ring	8	-
471 020	Valve stem for drain valve	3	0.2
471 028	Spring pin	6	-

Lubricating oil module

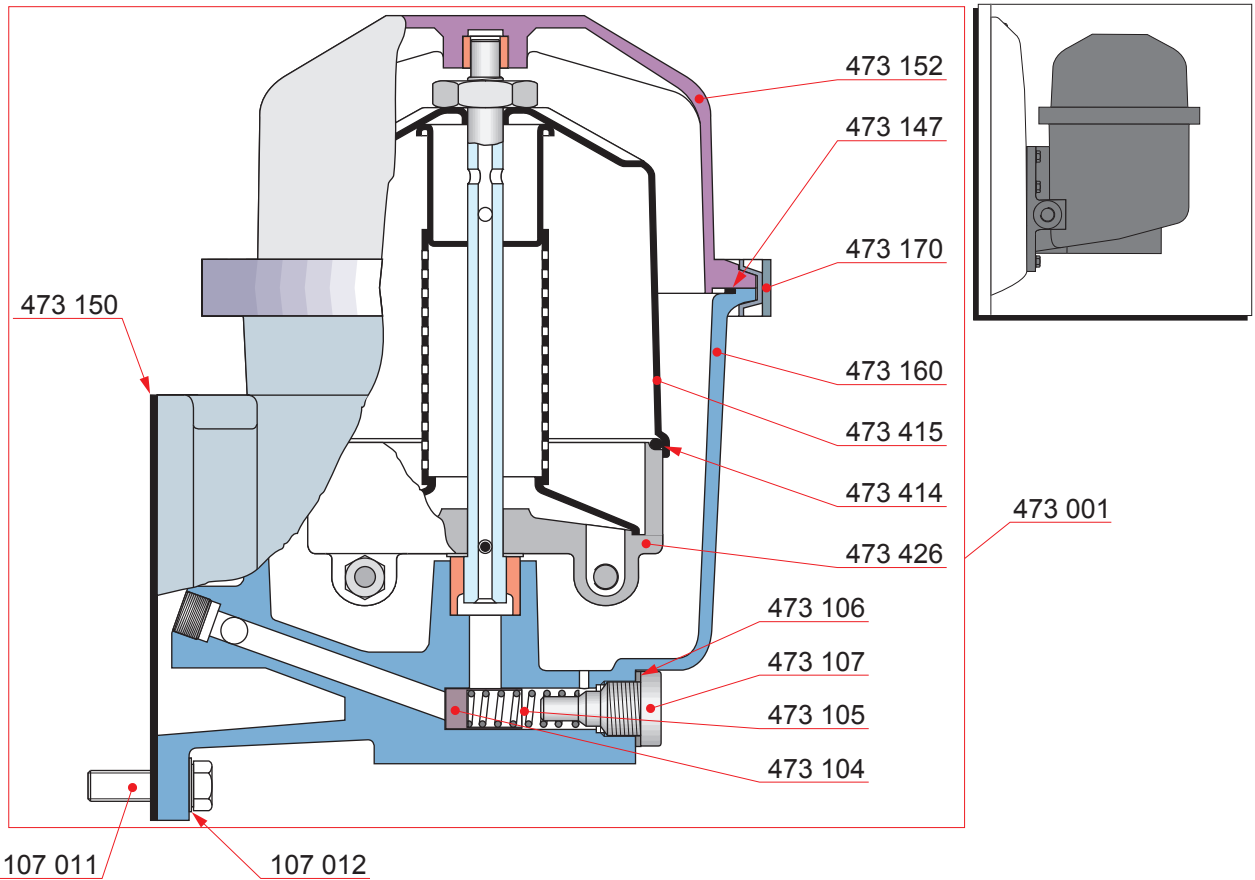


Part No.	Description	Qty [Pcs]	Wt. [Kg]
471 051	Sealing kit for lubricating oil module	1	1.4
183 005	O-ring	2	-
183 008	O-ring	1	-
196 004	Slide O-ring	1	-
196 007	O-ring	1	-
196 009	O-ring	1	-
196 012	Sealing ring	1	-
196 022	Scraper ring	2	-
471 002	O-ring	4	-
471 009	O-ring	4	-
471 013	O-ring	8	-
471 014	Gasket	8	0.1
471 041	O-ring	4	-
471 044	O-ring	4	-
471 046	O-ring	8	-

NOTE! *) Used only if LT-thermostat valve with linear actuator.

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Centrifugal filter

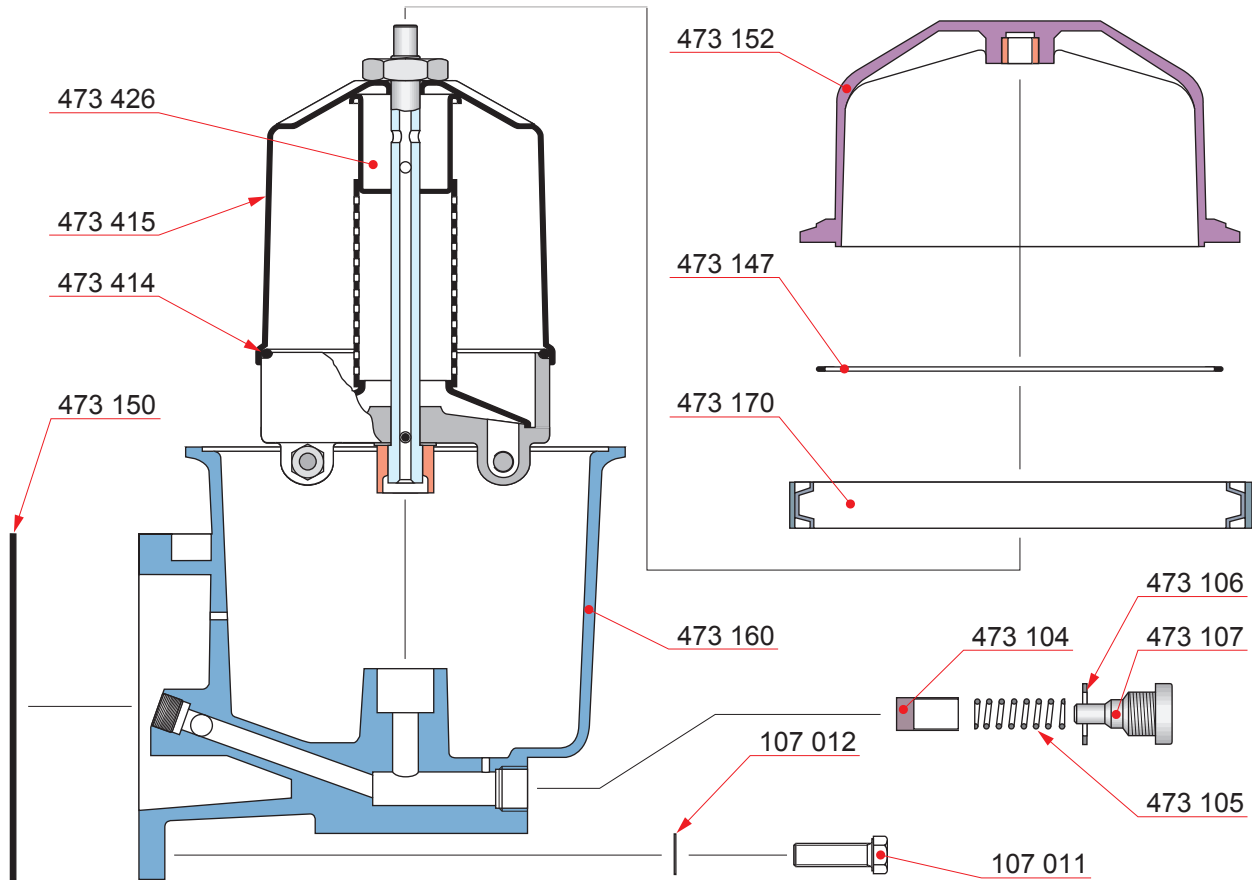


Part No.	Description	Qty [Pcs]	Wt. [Kg]
473 001	Centrifugal filter	1	-
473 104	Shuttle	1	-
473 105	Spring	1	-
473 106	Gasket	1	-
473 107	Plug	1	-
473 147	O-ring	1	-
473 150	Gasket	1	-
473 152	Cover	1	-
473 160	Housing, compl.	1	-
473 170	Cover clamp ring	1	-
473 414	O-ring	1	-
473 415	Paper insert	1	-
473 426	Rotor assembly kit	1	-
107 011	Screw	6	-
107 012	Washer	6	-

Edition: D

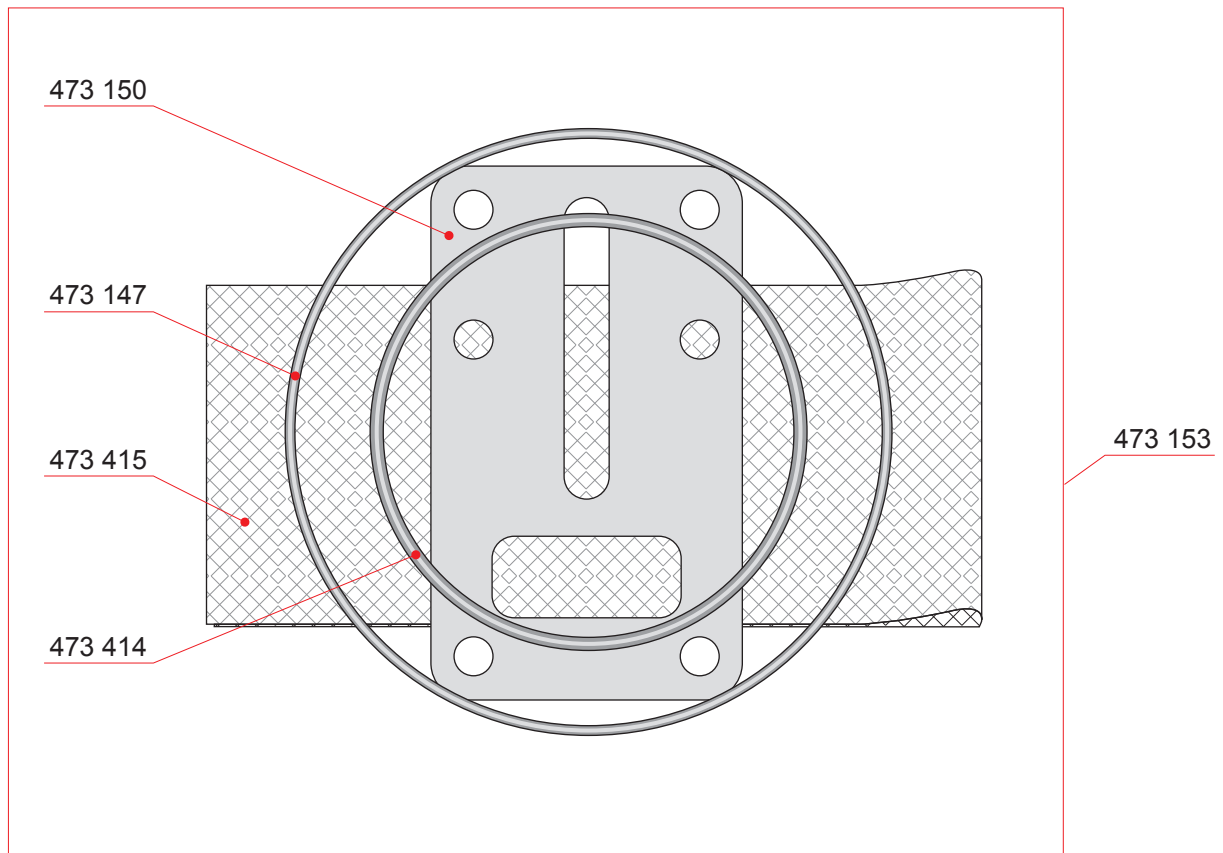
Page: 2(3)

Updated: 28.12.2004

Centrifugal filter

Part No.	Description	Qty [Pcs]	Wt. [Kg]
473 104	Shuttle	1	-
473 105	Spring	1	-
473 106	Gasket	1	-
473 107	Plug	1	-
473 147	O-ring	1	-
473 150	Gasket	1	-
473 152	Cover	1	-
473 160	Housing, compl.	1	-
473 170	Cover clamp ring	1	-
473 414	O-ring	1	-
473 415	Paper insert	1	-
473 426	Rotor assembly kit	1	-
107 011	Screw	6	-
107 012	Washer	6	-

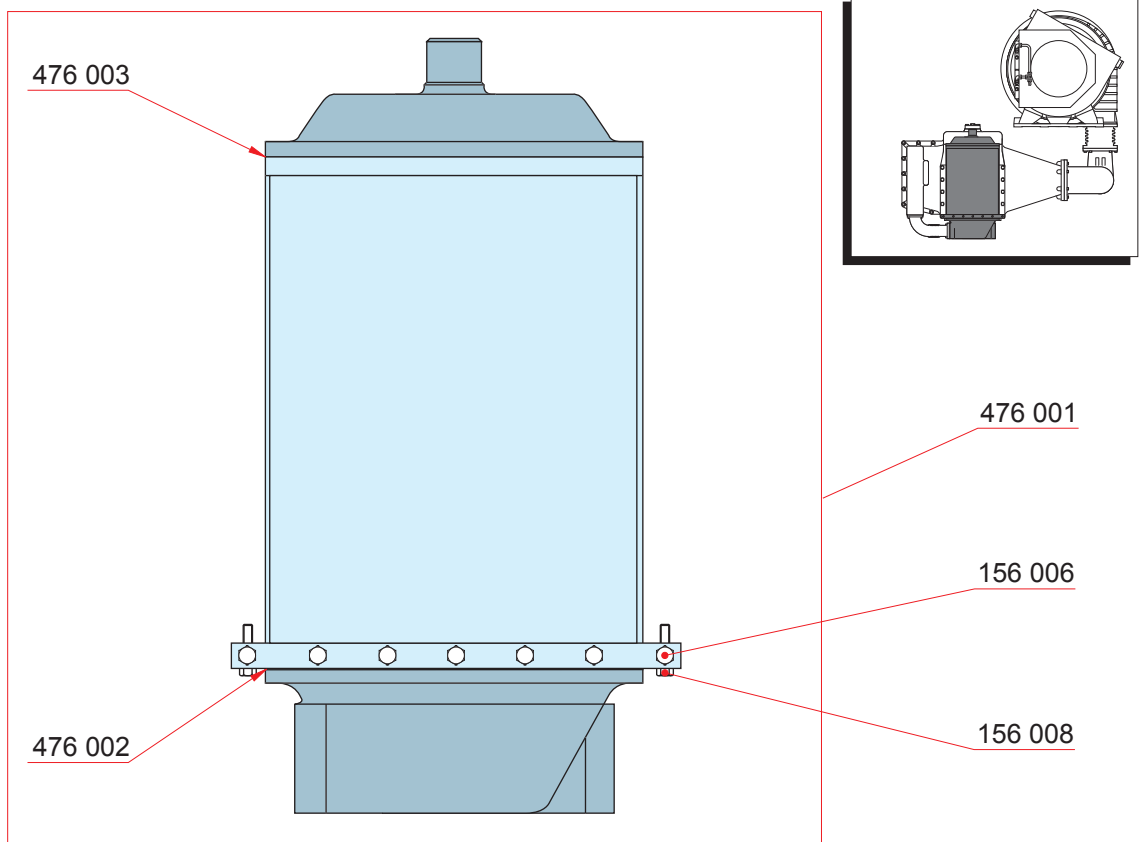
Centrifugal filter



Part No.	Description	Qty [Pcs]	Wt. [Kg]
473 153	Sealing kit	2	-
473 147	O-ring	1	-
473 150	Gasket	1	-
473 414	O-ring	1	-
473 415	Paper insert	1	-

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Air cooler



Part No.	Description	Qty [Pcs]	Wt. [Kg]
156 006	Screw	28	-
156 008	Screw	17	-
476 001	Charge air cooler	1	165
476 002	Gasket	1	0.1
476 003	Gasket	1	0.1

NOTE! * See next page

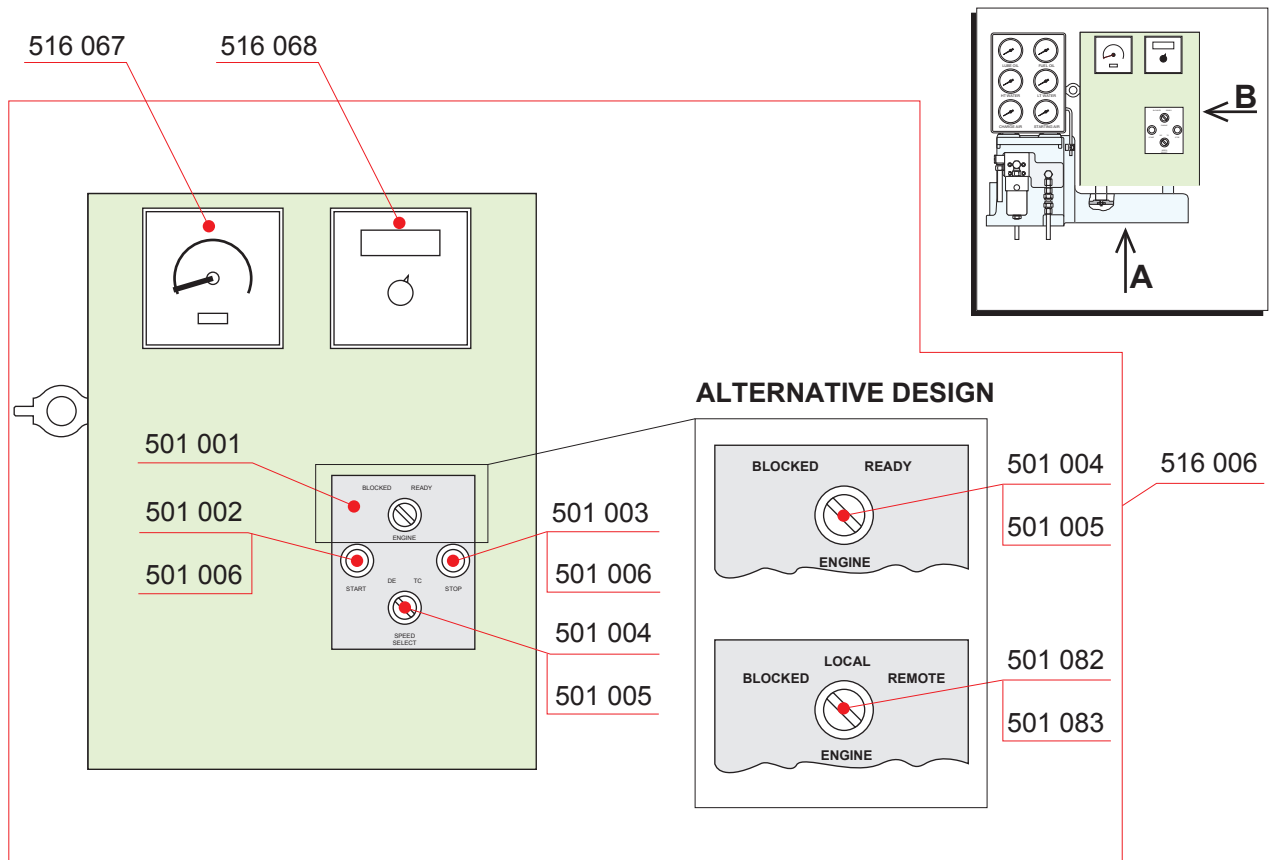
Edition: B
Page: 2(2)
Updated: 05.04.1994

Air cooler

Quantity according to number of cylinders

Part No	Pieces		
	4L20	6L20	9L20
156 006	5	7	7
156 008	13	17	17

Connecting box

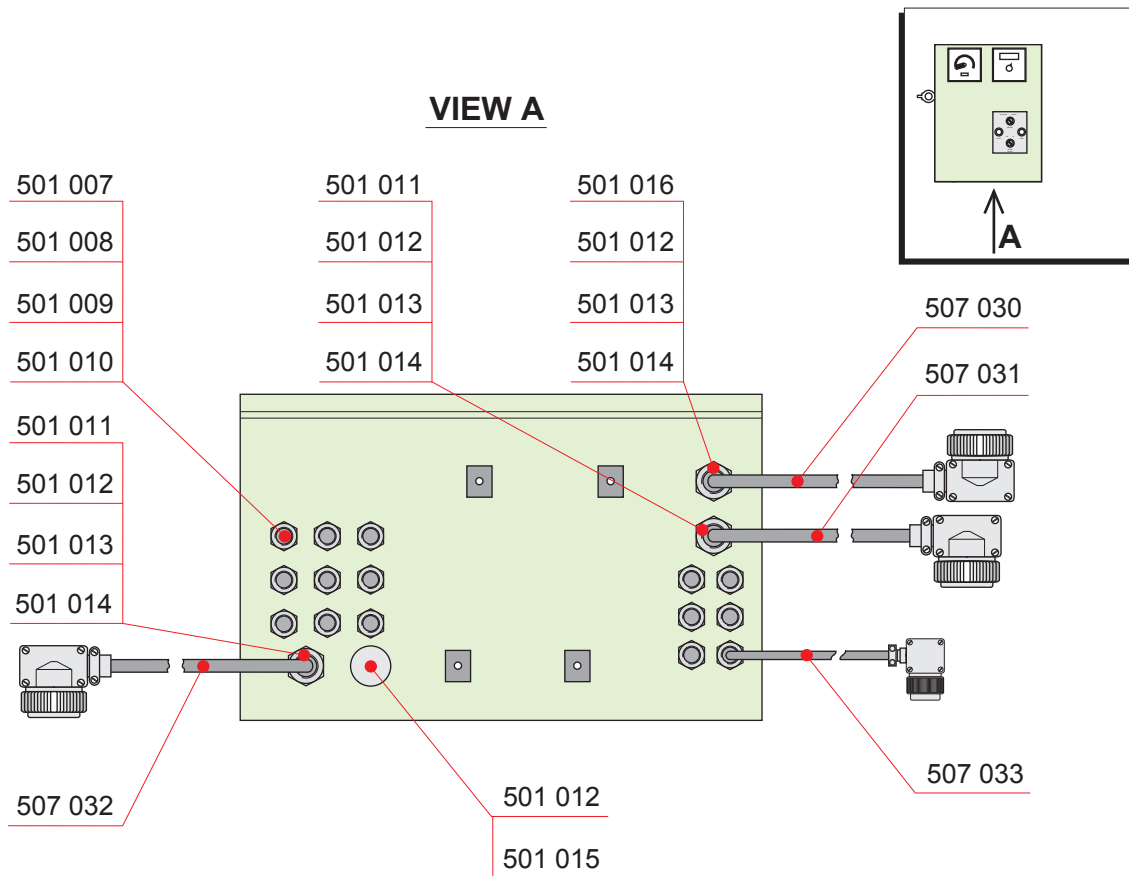


Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 006	Connecting box	1	-
501 001	Text plate	1	-
501 002	Push button	1	-
501 003	Push button	1	-
501 004	Selector switch	*	-
501 005	Contact block	*	-
501 006	Contact block	2	-
501 082	Selector switch	*	-
501 083	Contact block	*	-
516 067	Tachometer and hour counter	1	0.6
516 068	Thermometer	1	0.5

NOTE! * Quantity according to installation

Edition: D
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 Updated: 25.04.2002

Connecting box

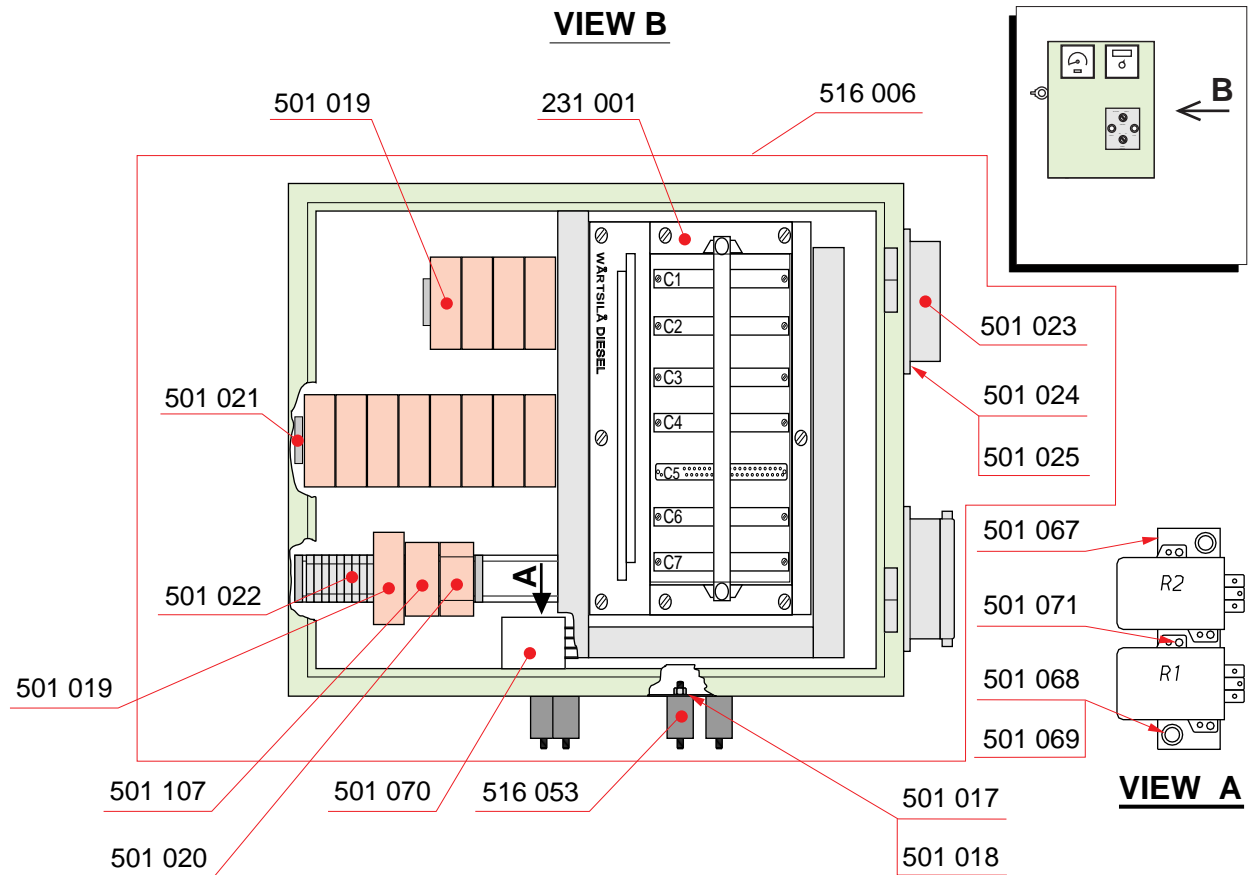


Part No.	Description	Qty [Pcs]	Wt. [Kg]
501 007	Cable gland	15	-
501 008	Flat nut	15	-
501 009	Sealing ring	15	-
501 010	Reducing nipple	15	-
501 011	Cable gland	2	-
501 012	Flat nut	4	-
501 013	Sealing ring	3	-
501 014	Reducing nipple	3	-
501 015	Closing tap	1	-
501 016	Cable gland	1	-
507 030	Cable A (1)	1	1.1
507 031	Cable B (1)	1	1.1
507 032	Cable C (1)	1	1.2
507 033	Cable D (1)	*	-

NOTE! (1) See section 507

NOTE! * See page 4.

Connecting box



Part No.	Description	Qty [Pcs]	Wt. [Kg]
231 001	SPEMOS device (2)	1	-
501 017	Nut	3	-
501 018	Washer	3	-
501 019	Converter	*	-
501 020	Overspeed trip module	*	-
516 006	Connecting box	1	-
501 021	End stopper	4	-
501 022	Terminal strip	13	-
501 023	Connector	4	0.2
501 024	Nut	16	-
501 025	Screw	16	-
501 067	Plate	1	-
501 068	Screw	2	-
501 069	Nut	2	-
501 070	Relay	2	-
501 071	Screw	4	-
501 107	Relay (3)	1	-
516 053	Vibration damper	4	-

NOTE! (2) See section 231-01.

NOTE! (3) Only mounted if MPD-switch QE251 installed.

NOTE! * See page 4

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Connecting box

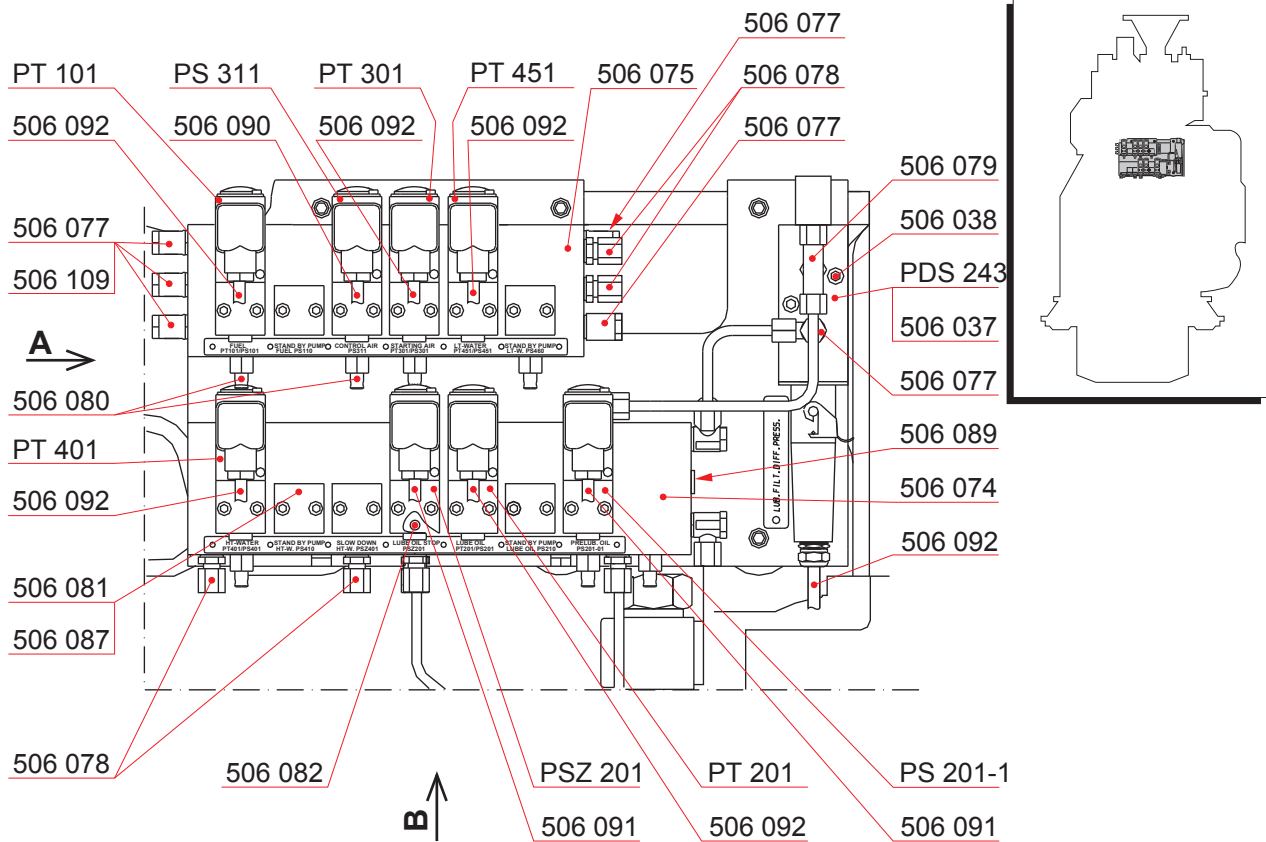
Quantity according to number of cylinders and
 whether it is a main or an auxiliary engine

Part No	Pieces									
	Main engine					Auxiliary engine				
	4L20	5L20	6L20	8L20	9L20	4L20	5L20	6L20	8L20	9L20
501 019	5	6	7	9	10	5	6	7	9	10
501 020	1	1	1	1	1	-	-	-	-	-
507 033	-	-	-	1	1	-	-	-	1	1

Part No.	Description	Qty [Pcs]	Wt. [Kg]
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NOTE! Part no 507 033 (Cabel D) used
 9L20 and 8L20 with 2-pulse.

Bracket with pressure switches

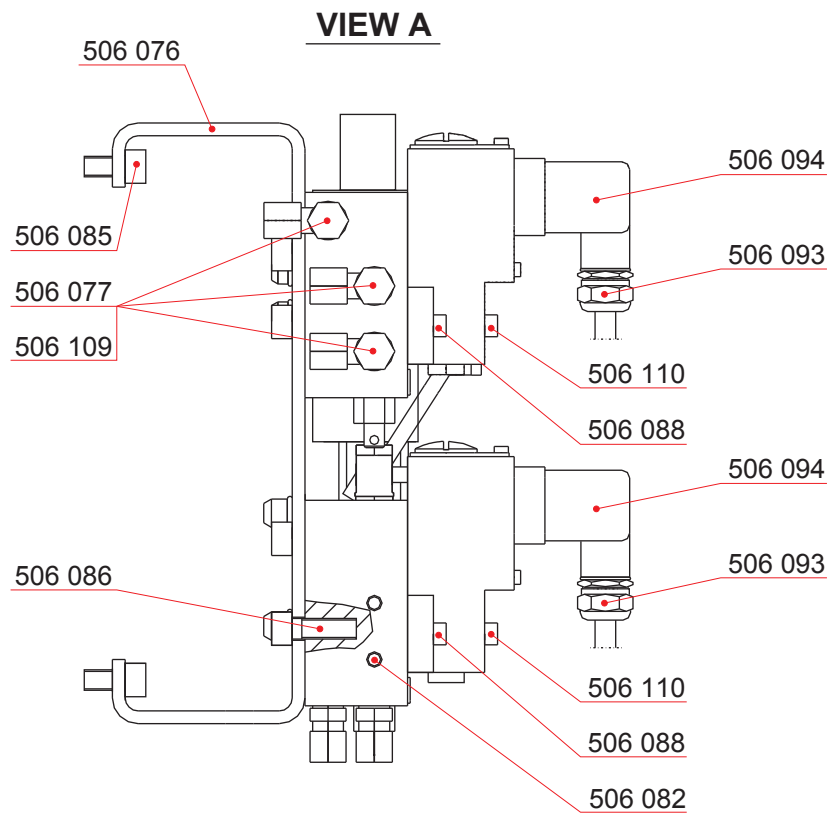


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
506 037	Insulating sheet	2	-	PSZ201	Pressure switch, lube oil (2)	1	-
506 089	Plug	1	-	PT101	Pressure transducer, fuel oil (2)	1	-
506 038	Screw	2	-	PT201	Pressure transducer, lube oil (2)	1	-
506 074	Adapter piece	1	3.0	PT301	Pressure transducer, starting air (2)	1	-
506 075	Adapter piece	1	2.4	PT401	Pressure transducer, HT water (2)	1	-
506 077	Pipe union	9	-	PT451	Pressure transducer, LT water (2)	1	-
506 078	Pipe union	6	-				
506 079	Pipe union	1	-				
506 080	Throttle valve	8	-				
506 081	End piece	5	-				
506 082	Plug	15	-				
506 087	O-ring	5	-				
506 090	Cable (1)	1	-	NOTE!	(1) L=1000mm (2) Check codes and names in wiring diagram for specific installation. SEE MANUAL CHAPTER 9.		
506 091	Cable (1)	1	-				
506 092	Cable (1)	5	-				
506 109	Seal ring	9	-				
PDS243	Pressure switch, lub.filter high diff. pressure (2)	1	0.6				
PS201-1	Pressure switch, prelub. oil (2)	1	-				
PS311	Pressure switch, control air (2)	1	-				

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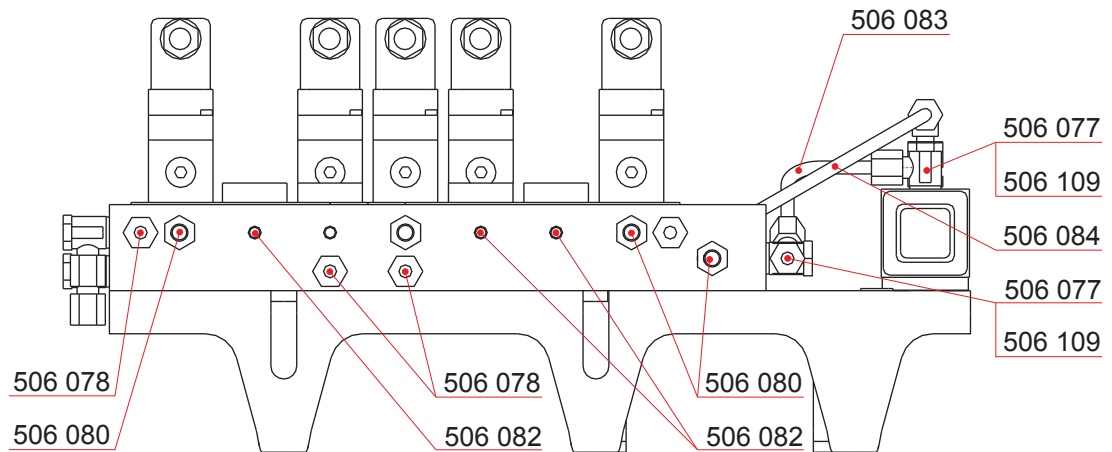
Updated: 06.10.1998

Bracket with pressure switches

Part No.	Description	Qty [Pcs]	Wt. [Kg]
506 076	Bracket	1	-
506 077	Pipe union	9	-
506 082	Plug	15	-
506 085	Screw	6	-
506 086	Screw	10	-
506 088	Screw	10	-
506 093	Cable gland	9	-
506 094	Connector	8	-
506 109	Seal ring	9	-
506 110	Screw	16	-

Bracket with pressure switches

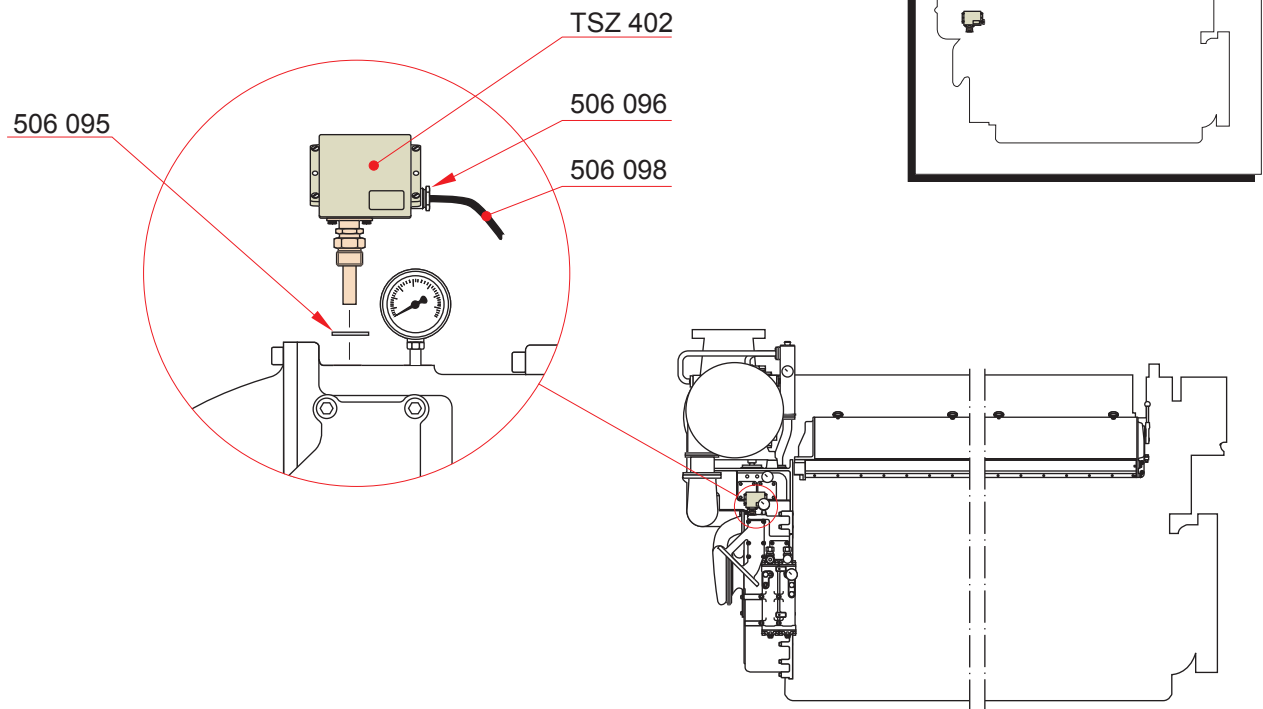
VIEW B



Part No.	Description	Qty [Pcs]	Wt. [Kg]
506 077	Pipe union	9	-
506 083	Pipe	1	-
506 084	Pipe	1	-
506 078	Pipe union	6	-
506 080	Throttle valve	8	-
506 082	Plug	15	-
506 109	Seal ring	9	-

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Temperature switch, HT-water



Part No.	Description	Qty [Pcs]	Wt. [Kg]
506 095	Sealing ring	1	-
506 096	Cable gland	1	-
506 098	Cable (1)	1	0.1
TSZ402	Temperature switch, HT-water	1	1.0

NOTE! (1) L= 6000 mm

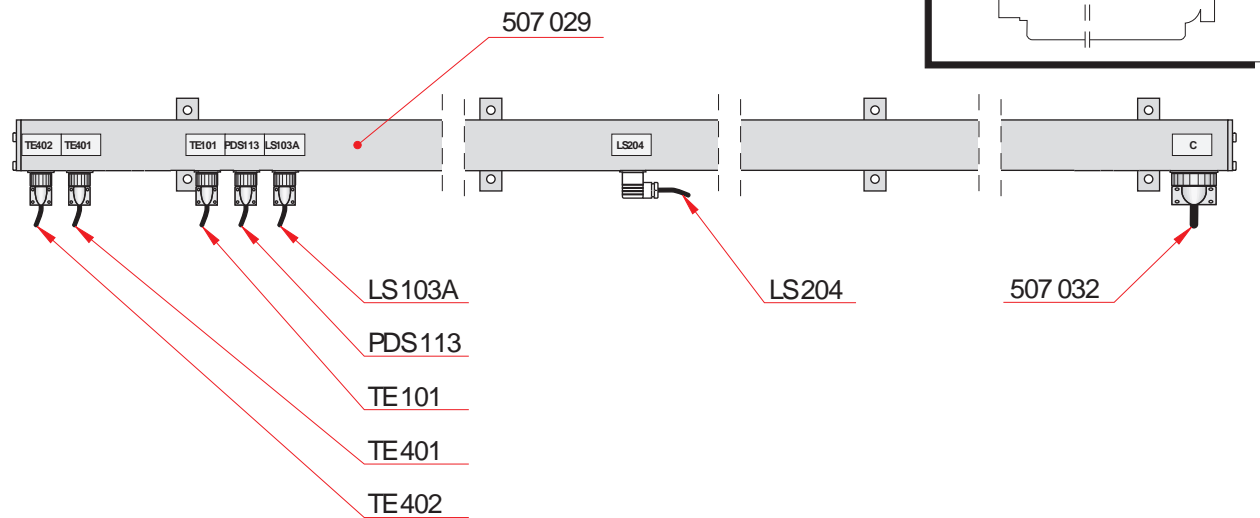
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Cable module, switches and sensors

NOTE General Layout.

When ordering spare parts, check codes and names in General Arrangement and Wiring Diagram drawings for the specific installation.

SEE MANUAL CHAPTER 9.



Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 029	Cable module, operating side	1	-
507 032	Cable C	1	-
LS103A	Level switch, fuel pipe/ block leakage (1)	1	-
LS204	Level switch, lubricating oil level low (1)	1	-
PDS113	Pressure switch, fuel filter high diff. pressure (2)	1	-
TE101	Temperature sensor, fuel oil temperature (1)	1	-
TE401	Temperature sensor, HT water, before engine (1)	1	-
TE402	Temperature sensor, HT water, after engine (1)	1	0.4

NOTE! (1) cable included.

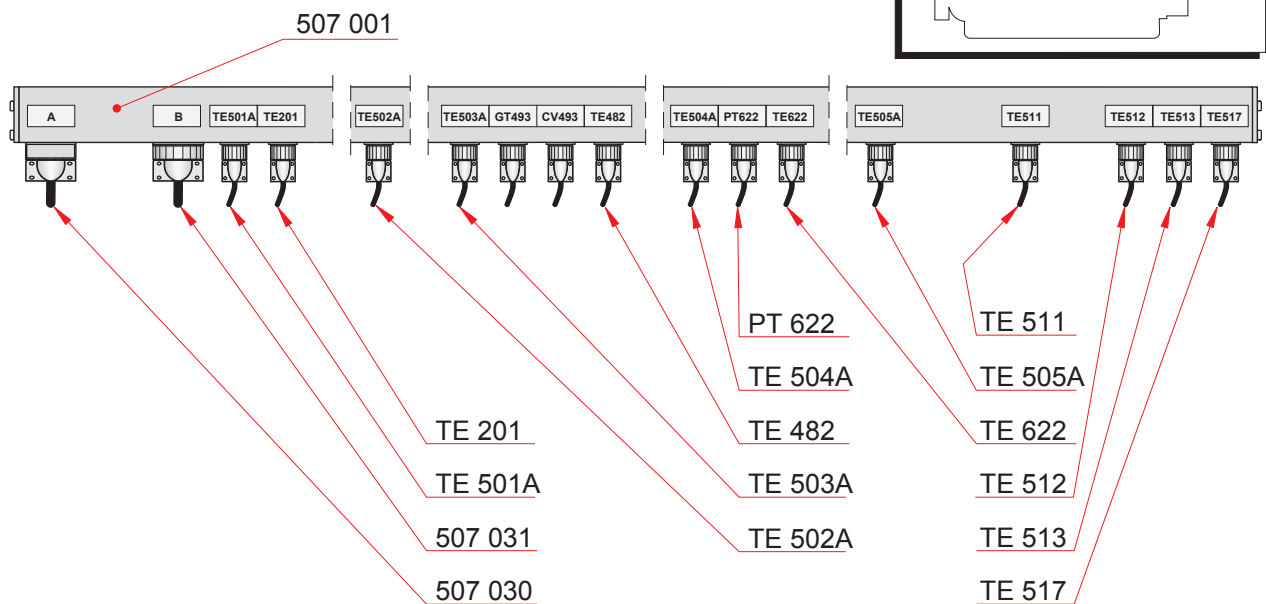
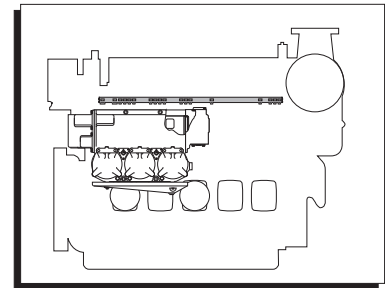
NOTE! (2) cable, see section 507-06.

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Cable module, transducer and sensors

When ordering spare parts, check codes and names in General Arrangement and Wiring Diagram drawings for the specific installation.

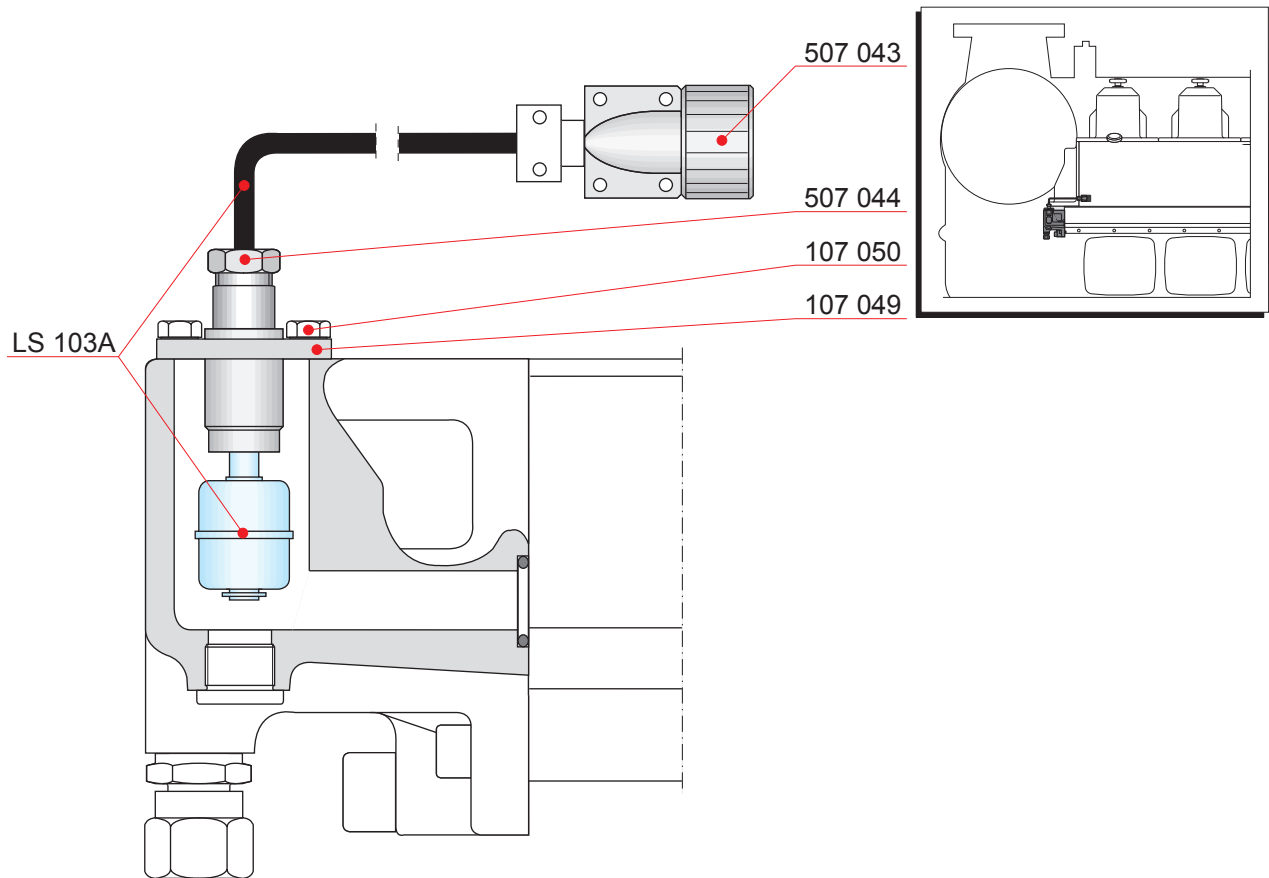
SEE MANUAL CHAPTER 9.



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 001	Cable module, rear side	1	-	TE511	Temperature sensor, exh. gas temp., before TC (2)	1	-
507 030	Cable A	1	-	TE512	Temperature sensor, exh. gas temp., before TC (2)	1	-
507 031	Cable B	1	-	TE513	Temperature sensor, exh. gas temp., before TC (2)	1	-
PT622	Pressure transducer, charge air pressure (1)	1	-	TE517	Temperature sensor, exh. gas temp., after TC (2)	1	-
TE201	Temperature sensor, lubricating oil temperature (2)	1	-	TE622	Temperature sensor, charge air temp, after cooler (2)	1	-
TE482	Temp. sensor, LT-thermostatic control, LT-water (2)	1	-	NOTE!	(2) Cable included.		
TE501A	Temperature sensor, exh. gas temp., after cyl. (2)	1	-				
TE502A	Temperature sensor, exh. gas temp., after cyl. (2)	1	-				
TE503A	Temperature sensor, exh. gas temp., after cyl. (2)	1	-				
TE504A	Temperature sensor, exh. gas temp., after cyl. (2)	1	-				
TE505A	Temperature sensor, exh. gas temp., after cyl. (2)	1	-				

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Level switch for fuel pipe block/leakage

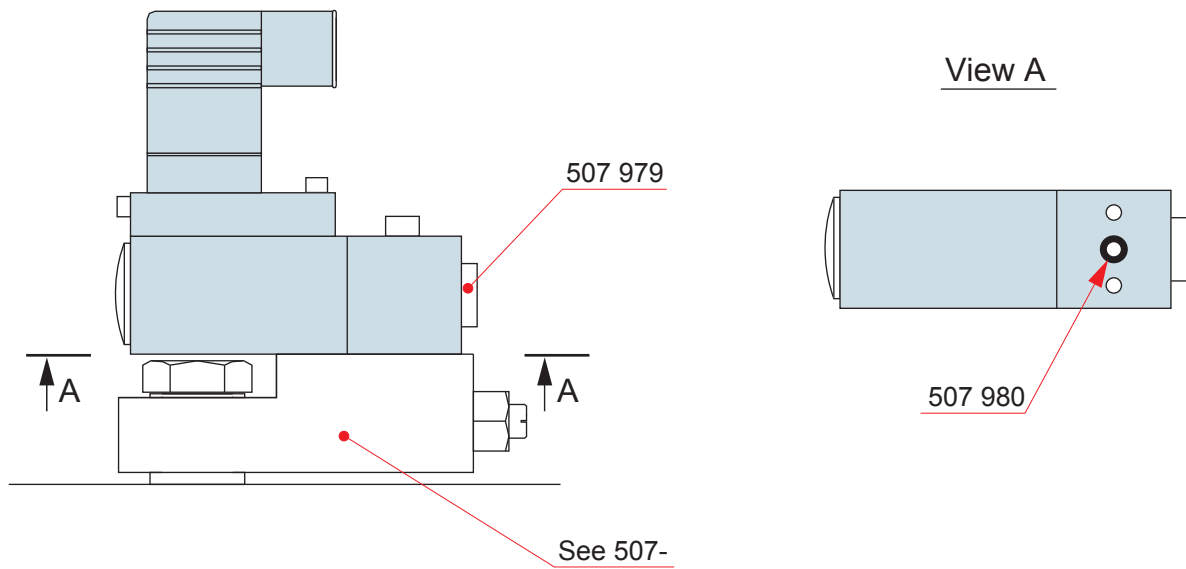


Part No.	Description	Qty [Pcs]	Wt. [Kg]
LS103A	Level switch, fuel pipe block/leakage (1)	1	0.2
107 049	Cover	1	0.2
107 050	Screw	3	-
507 043	Connector	1	-
507 044	Sleeve seal	1	-

NOTE! (1) Cable included.

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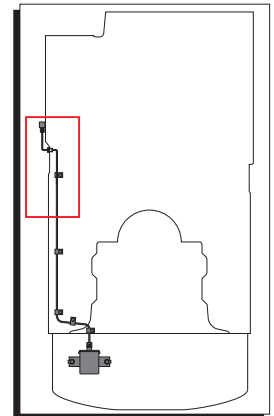
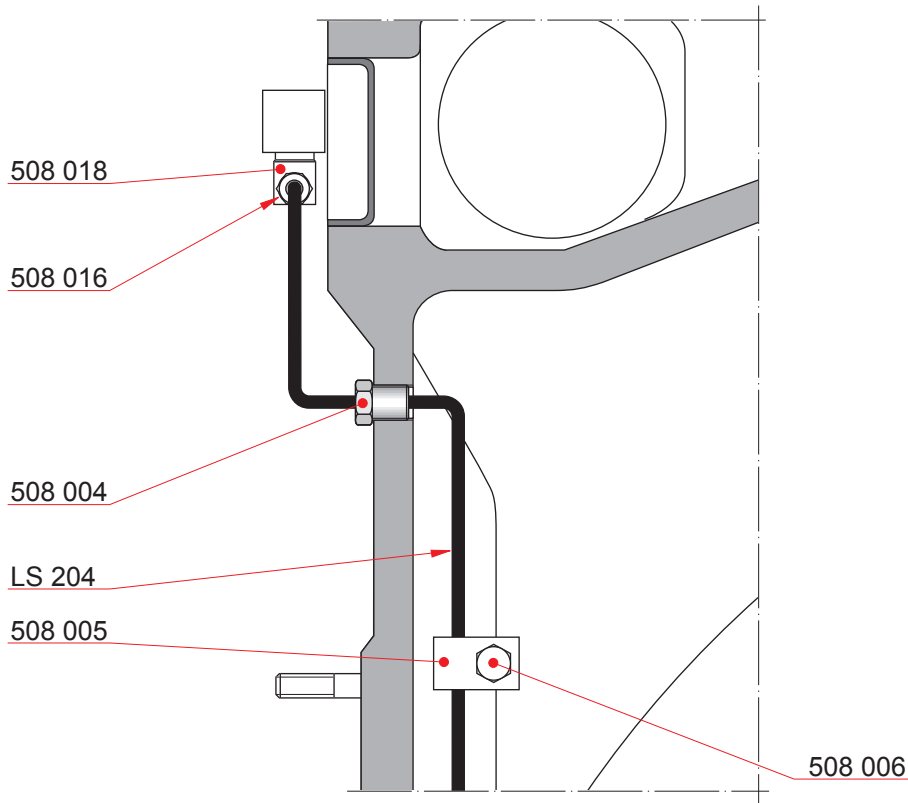
Equipment for pressure sensor



Part No.	Description	Qty [Pcs]	Wt. [Kg]
507 979	Plug	1	-
507 980	O-ring	1	-

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Lubricating oil level alarm switch

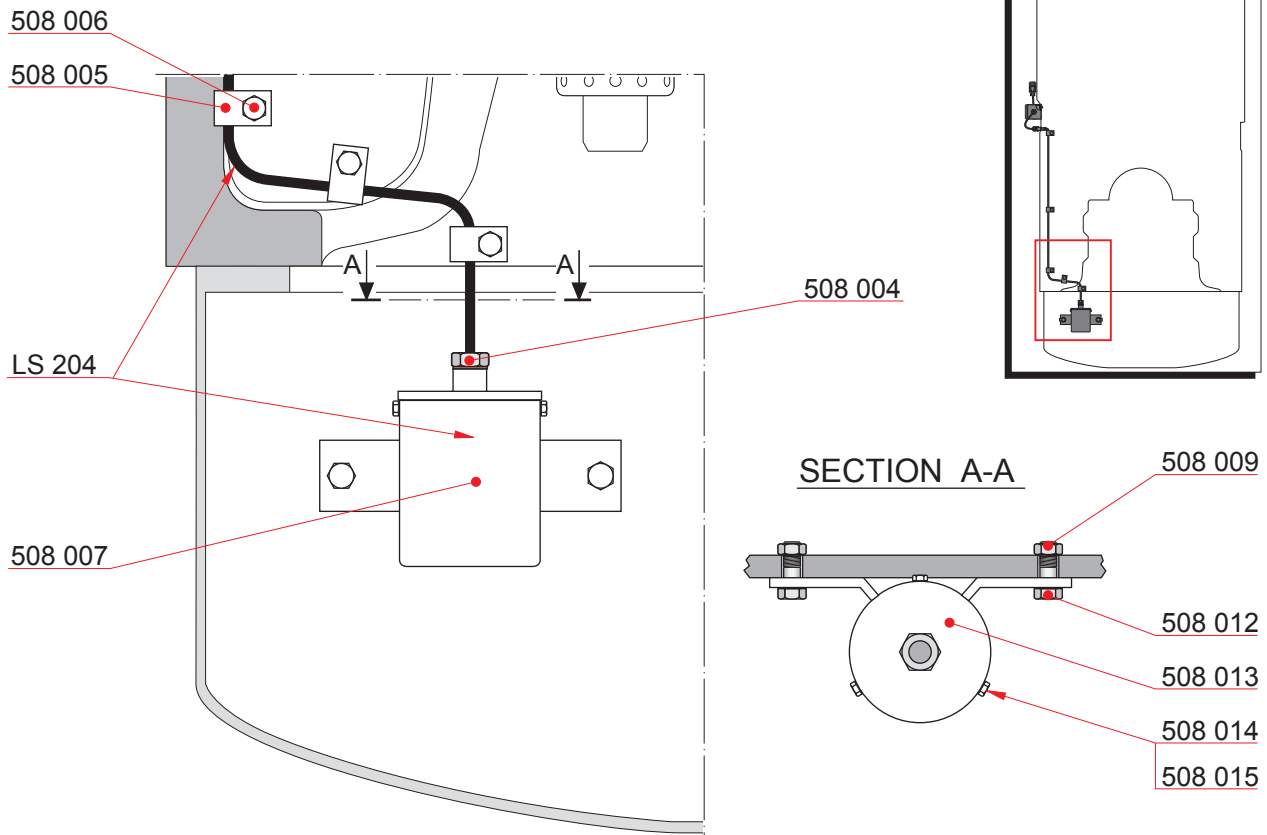


Part No.	Description	Qty [Pcs]	Wt. [Kg]
508 006	Screw	13	-
LS204	Level switch, lubricating oil level low (1)	1	0.4
508 004	Cable gland	2	-
508 005	Cable clamp	5	-
508 016	Sleeve seal	1	-
508 018	Connector	1	-

NOTE! (1) Cable included.

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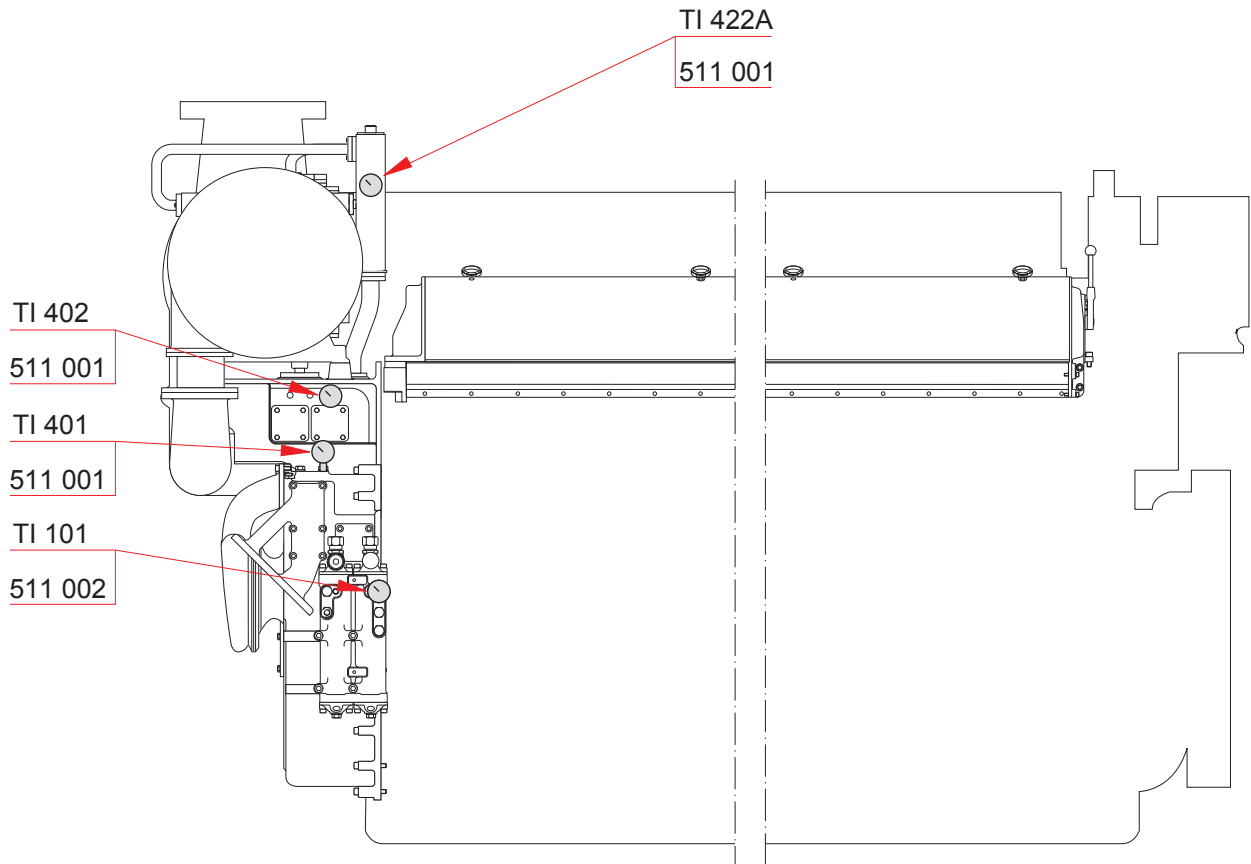
Lubricating oil level alarm switch



Part No.	Description	Qty [Pcs]	Wt. [Kg]
508 006	Screw	13	-
508 009	Nut	2	-
508 012	Screw	2	-
508 013	Cover	1	0.4
508 014	Screw	3	-
LS204	Level switch, lubricating oil level low (1)	1	0.4
508 004	Cable gland	2	-
508 005	Cable clamp	5	-
508 007	Tank for alarm device	1	1.3
508 015	Locking plate	3	-

NOTE! (1) Cable included.

Thermometers



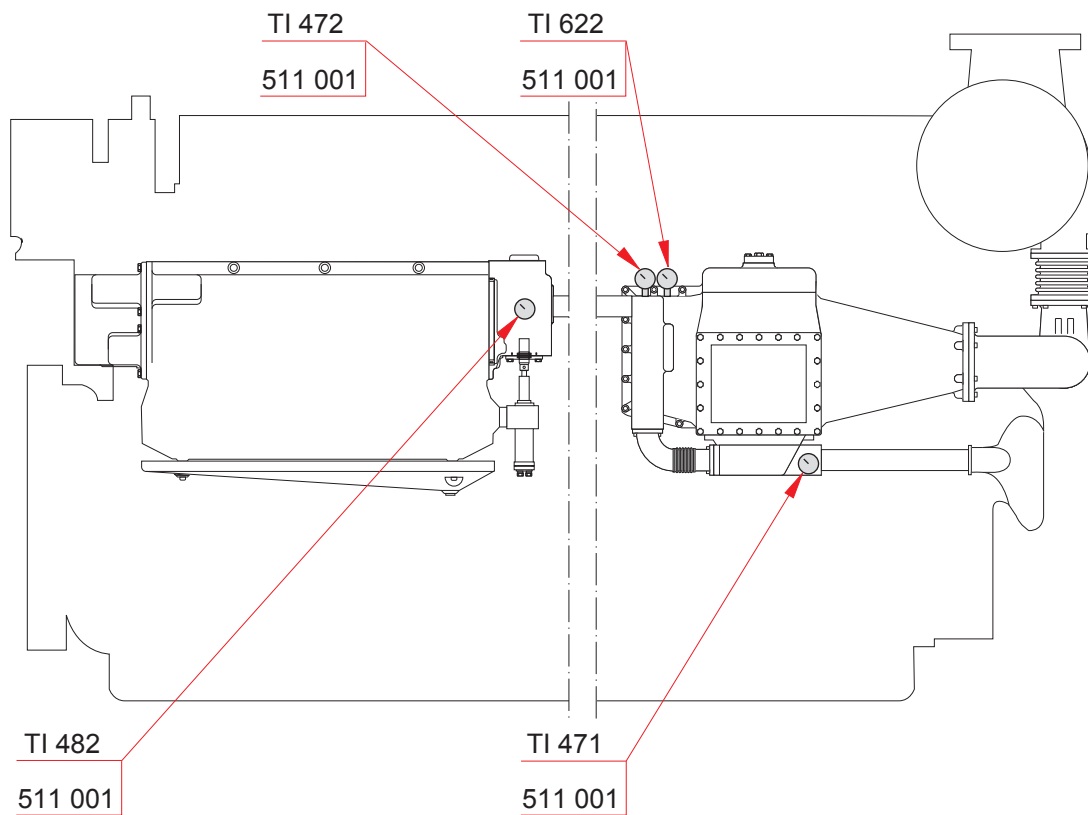
Part No.	Description	Qty [Pcs]	Wt. [Kg]
TI101	Thermometer, fuel oil, engine inlet	1	0.2
TI401	Thermometer, HT water, before engine	1	0.3
TI402	Thermometer, HT water, after engine	1	0.2
TI422A	Thermometer, HT water, after TC (1) (1)	1	0.2
511 001	Sealing ring	9	-
511 002	Sealing ring	1	-

NOTE! (1) not in use when ABB TPS or NAPIER turbo.

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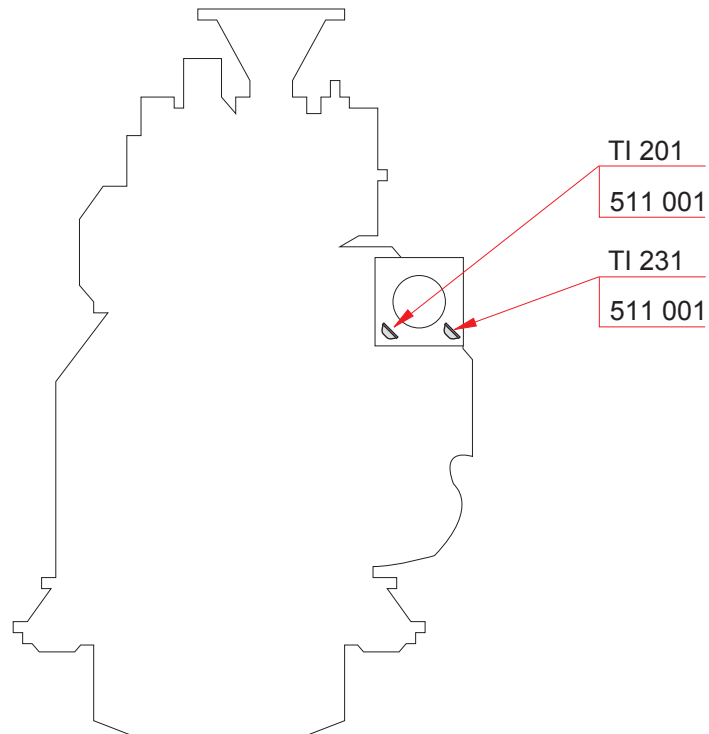
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Updated: 27.05.1999

Thermometers

Part No.	Description	Qty [Pcs]	Wt. [Kg]
TI471	Thermometer, LT water, before charge air cooler	1	0.2
TI472	Thermometer, LT water, after charge air cooler	1	0.3
TI482	Thermometer, LT water, after LO-cooler	1	0.2
TI622	Thermometer for charge air, after cooler	1	0.3
511 001	Sealing ring	9	-

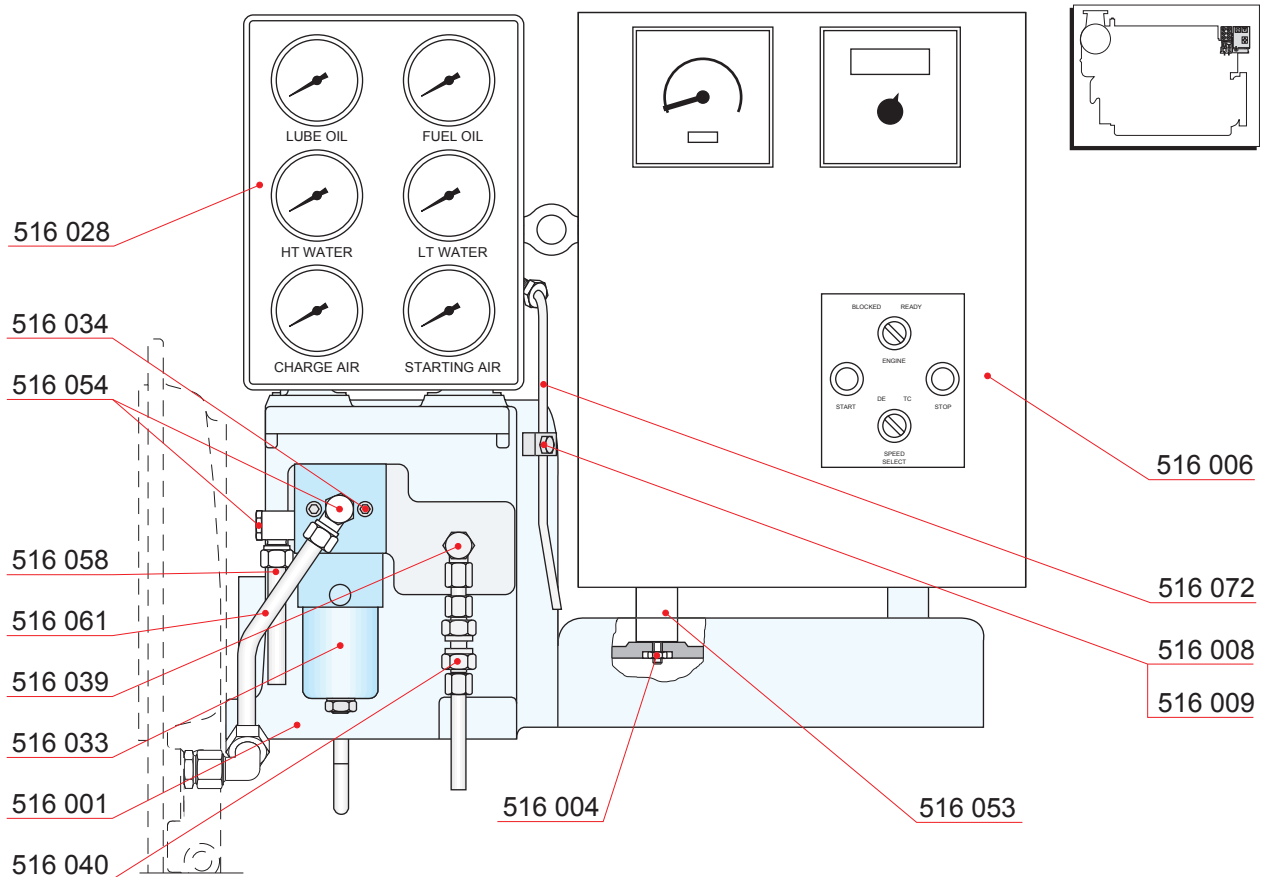
Thermometers



Part No.	Description	Qty [Pcs]	Wt. [Kg]
TI201	Thermometer for lubricating oil, before engine	1	0.3
TI231	Thermometer for lubricating oil, before engine	1	0.3
511 001	Sealing ring	9	-

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Bracket for instrument panel and connecting box



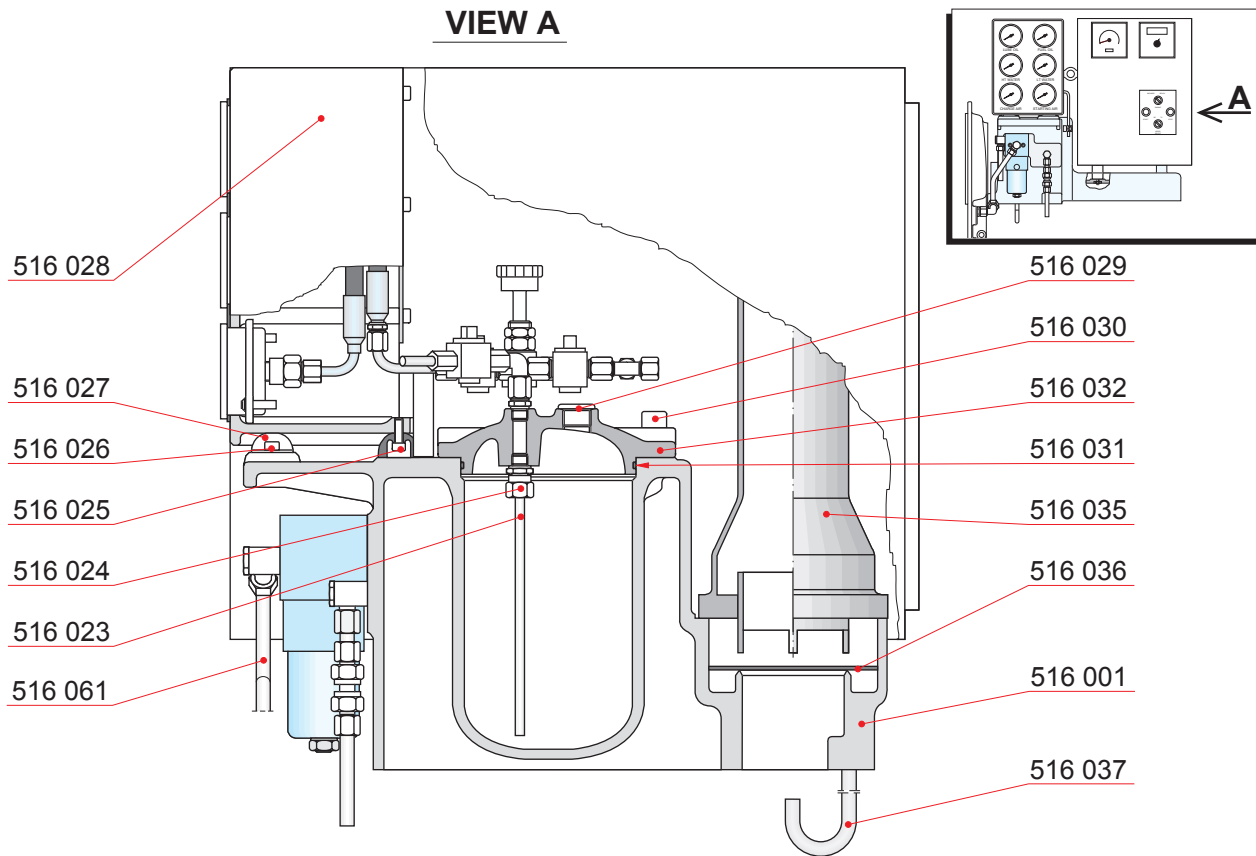
Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 001	Bracket	1	44.7
516 004	Nut	5	-
516 061	Pipe	1	-
516 072	Pipe	1	-
516 006	Connecting box	1	-
516 008	Screw	1	-
516 009	Pipe clamp	1	-
516 028	Instrument panel	1	12.4
516 033	Solenoid valve	1	-
516 034	Screw	2	-
516 039	Pipe union	1	-
516 040	Non-return valve	1	0.1
516 053	Vibration damper	4	-
516 054	Pipe union	2	-
516 058	Pipe (1)	0	0.4

NOTE! (1) L=60 mm

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Updated: 17.04.1997

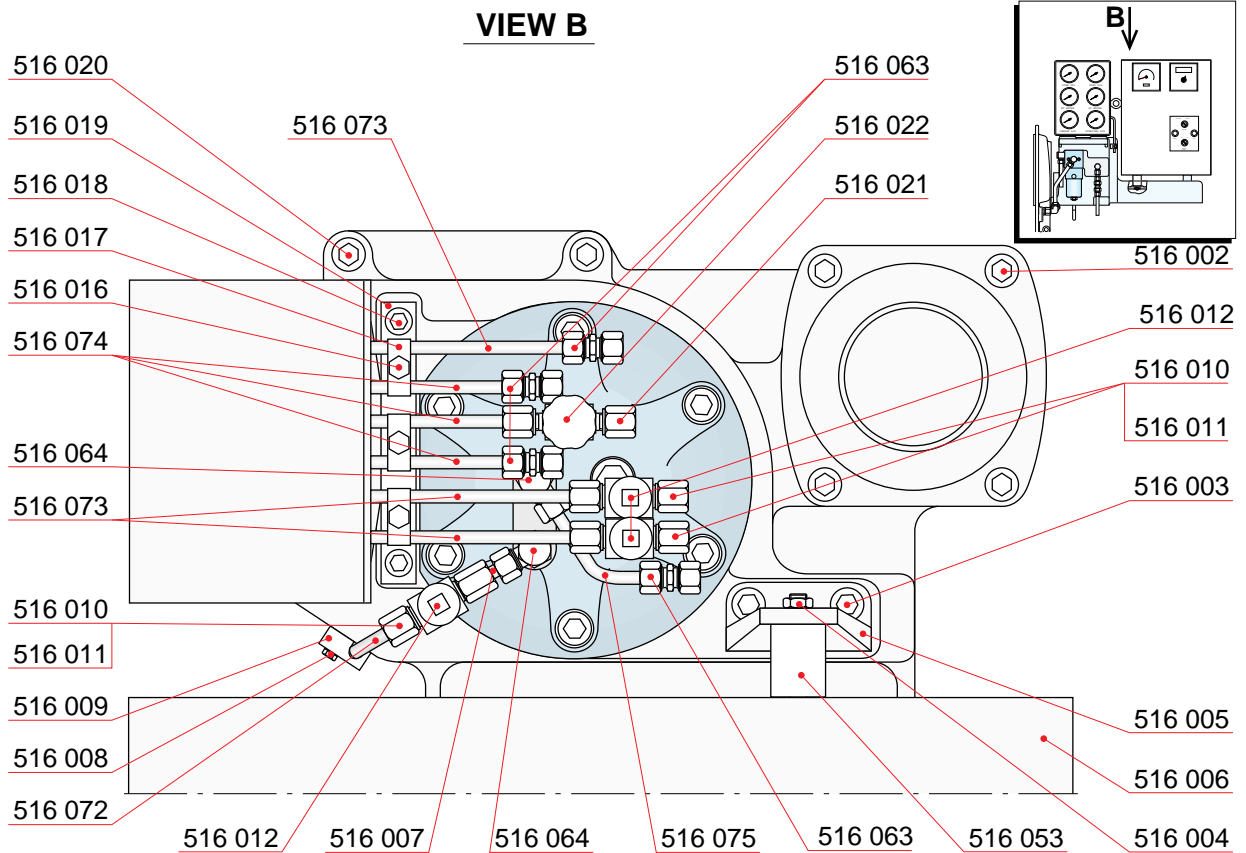
Bracket for instrument panel and connecting box

VIEW A



Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 001	Bracket	1	44.7
516 023	Pipe	190	0.2
516 029	Plug	1	-
516 061	Pipe	1	-
516 024	Pipe union	1	-
516 025	Screw	3	-
516 026	Screw	6	-
516 027	Vibration damper	3	-
516 028	Instrument panel	1	12.4
516 030	Screw	6	-
516 031	O-ring	1	-
516 032	Cover	1	5.5
516 035	Ventilation pipe	1	7.2
516 036	Valve plate	1	-
516 037	Oil lock	1	-

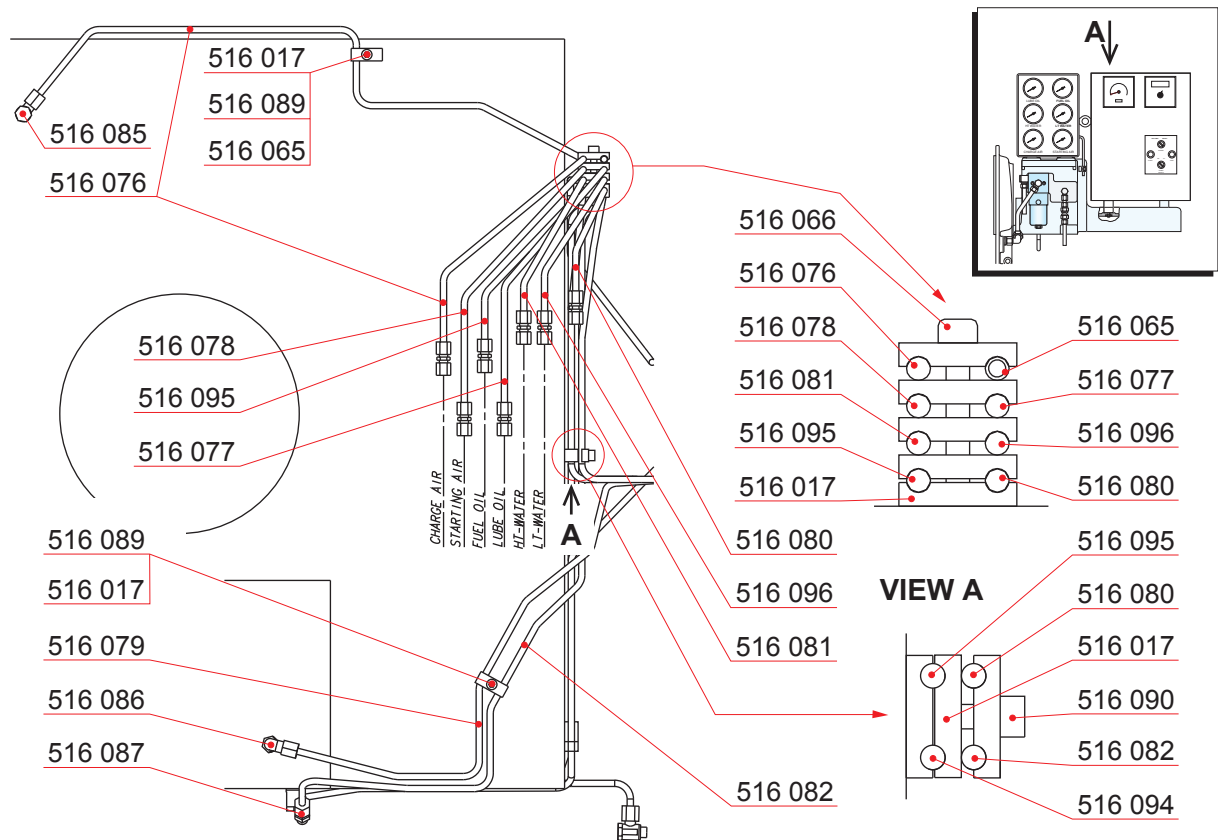
Bracket for instrument panel and connecting box



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 002	Screw	4	0.1	516 063	Pipe union	4	-
516 004	Nut	5	-	516 064	Pipe union	2	-
516 072	Pipe	1	-	NOTE!	(1) L=40mm		
516 073	Pipe	3	-				
516 074	Pipe	3	-				
516 075	Pipe	1	-				
516 003	Screw	2	-				
516 005	Support	1	0.7				
516 006	Connecting box	1	-				
516 007	Pipe (1) (1)	0	0.2				
516 008	Screw	1	-				
516 009	Pipe clamp	1	-				
516 010	Cutting ring	5	-				
516 011	Connection nut	5	-				
516 012	Ball valve	3	0.2				
516 016	Screw	3	-				
516 017	Pipe clamp	13	-				
516 018	Screw	2	-				
516 019	Bracket	1	0.4				
516 020	Screw	3	-				
516 021	Pipe union	2	-				
516 022	Needle valve	1	0.2				
516 053	Vibration damper	4	-				

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Pipes for instrument panel



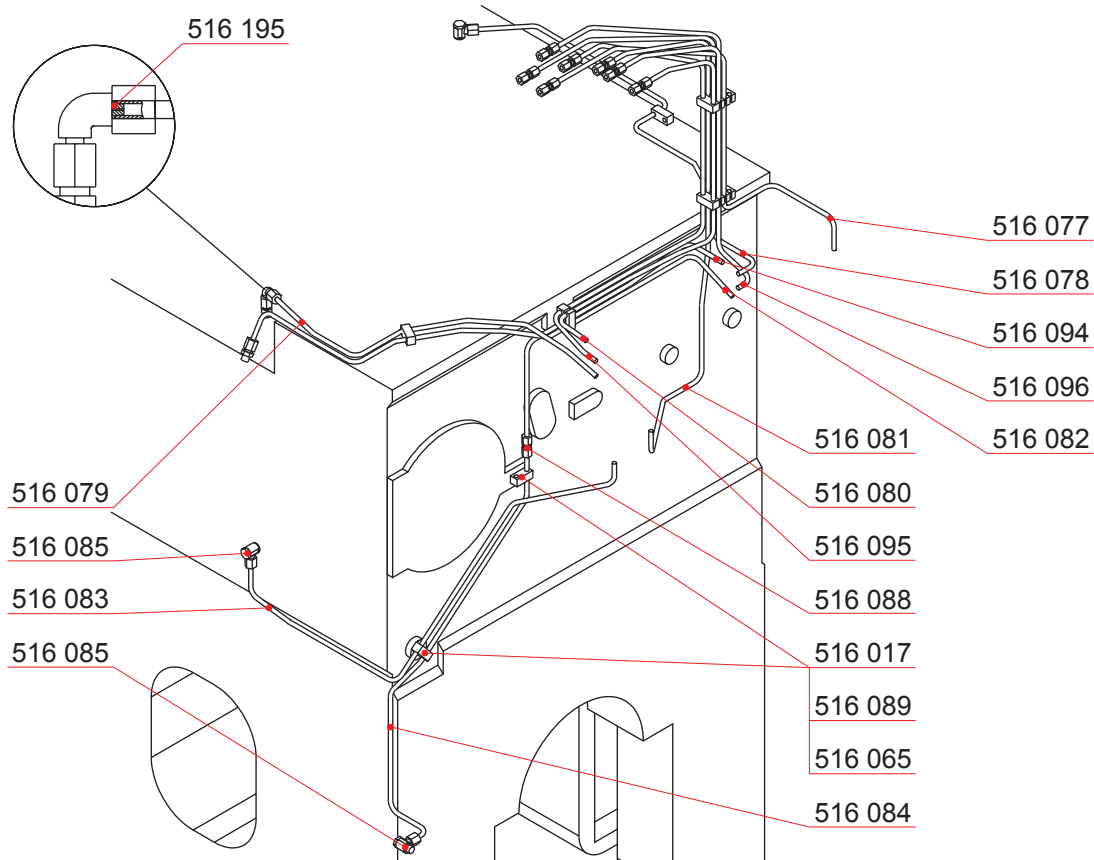
Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 017	Pipe clamp	21	-
516 065	Pin	3	-
516 066	Screw	1	-
516 076	Pipe	1	-
516 077	Pipe	1	0.2
516 078	Pipe	1	-
516 079	Pipe	1	-
516 080	Pipe	1	0.2
516 081	Pipe	1	-
516 082	Pipe	1	0.1
516 089	Screw	6	-
516 090	Screw	1	-
516 094	Pipe	1	-
516 095	Pipe	1	0.1
516 096	Pipe	1	-
516 085	Pipe union	4	-
516 086	Pipe union	1	-
516 087	Pipe union	3	-

Edition: C

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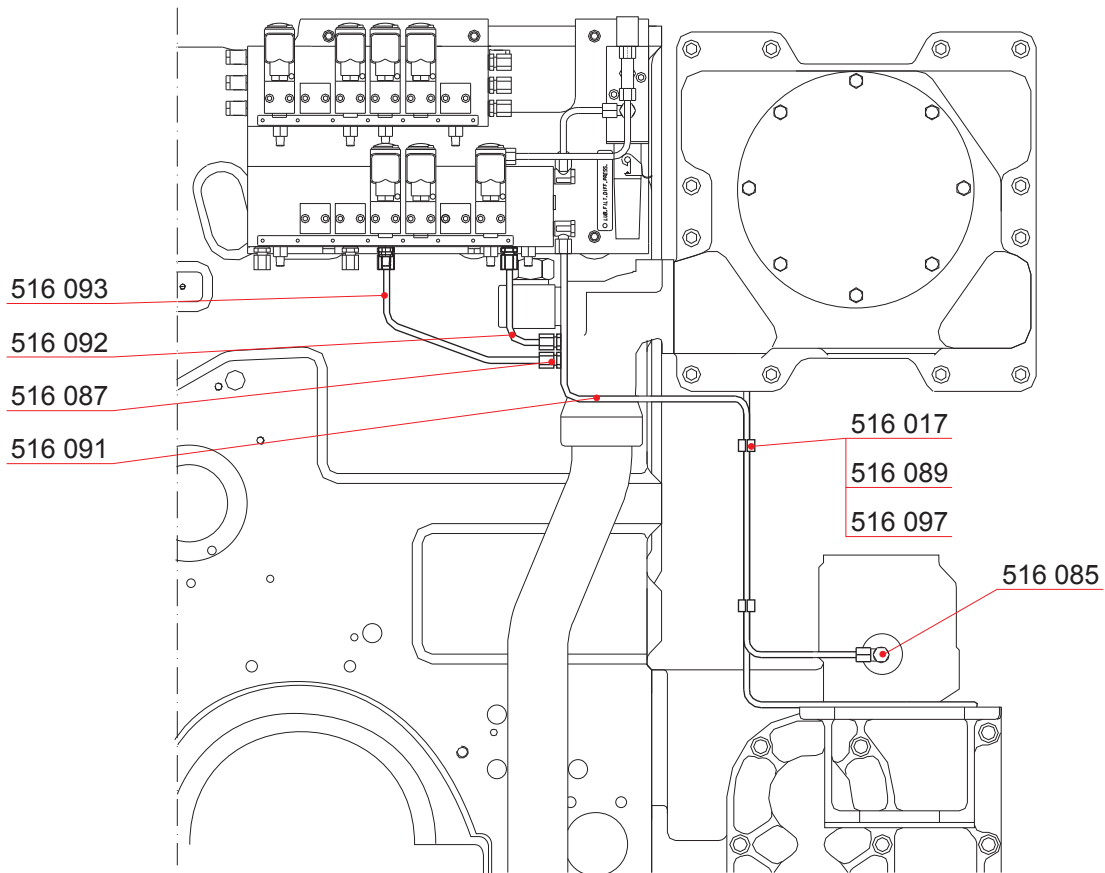
Updated: 28.12.2000

Pipes for instrument panel



Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 017	Pipe clamp	21	-
516 065	Pin	3	-
516 077	Pipe	1	0.2
516 078	Pipe	1	-
516 079	Pipe	1	-
516 080	Pipe	1	0.2
516 081	Pipe	1	-
516 082	Pipe	1	0.1
516 083	Pipe	1	-
516 084	Pipe	1	-
516 089	Screw	6	-
516 094	Pipe	1	-
516 095	Pipe	1	0.1
516 096	Pipe	1	-
516 085	Pipe union	4	-
516 088	Pipe union	8	-
516 195	Throttle ring	1	-

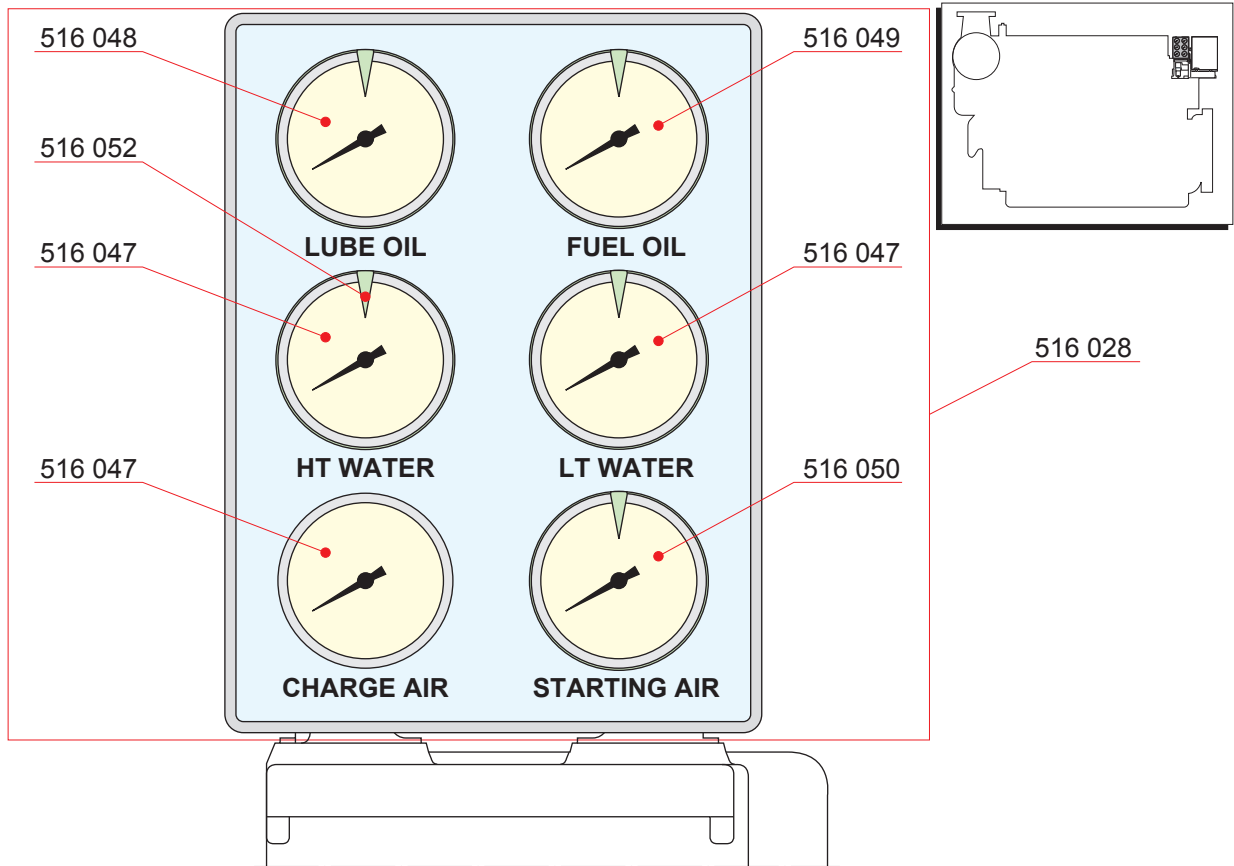
Pipes for instrument panel



Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 017	Pipe clamp	21	-
516 089	Screw	6	-
516 091	Pipe	1	0.1
516 092	Pipe	1	0.2
516 093	Pipe	1	0.2
516 097	Nut	1	-
516 085	Pipe union	4	-
516 087	Pipe union	3	-

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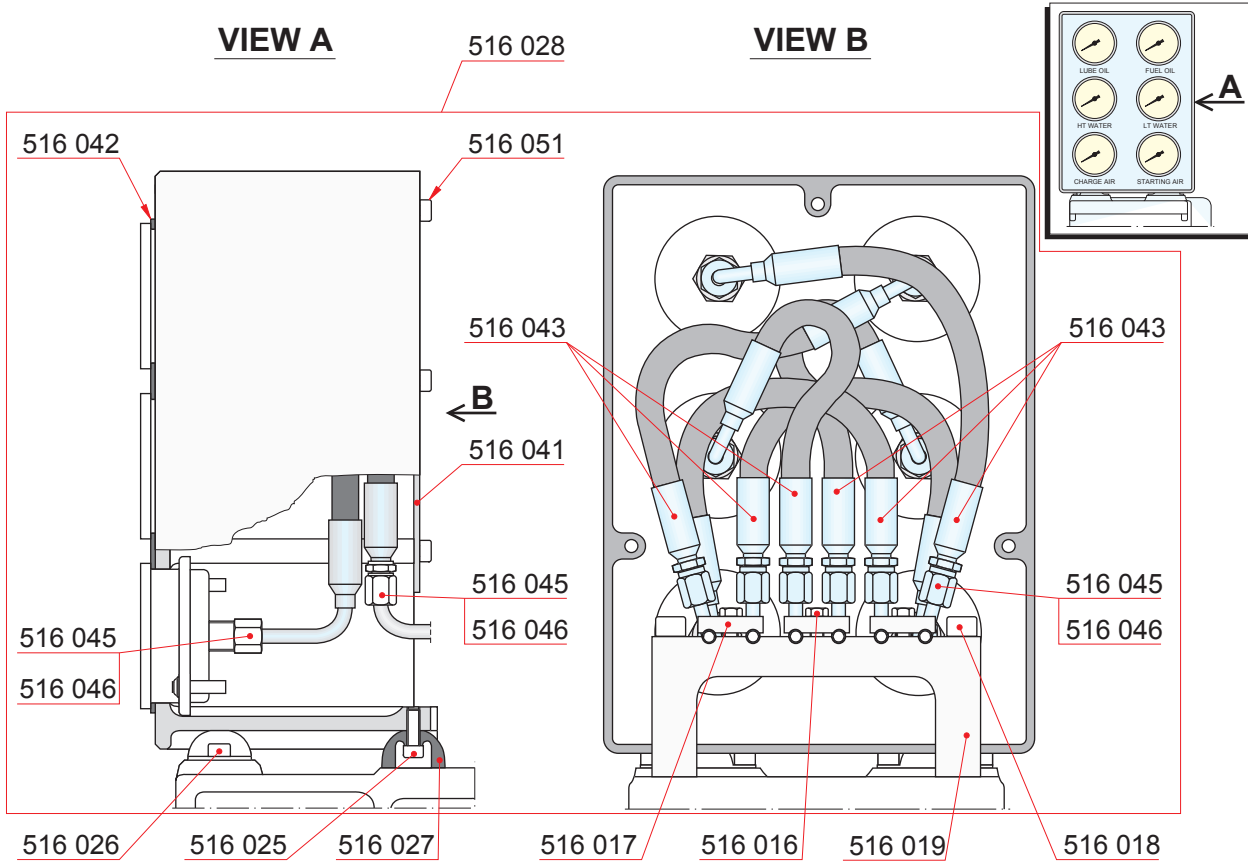
Instrument panel



Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 028	Instrument panel	1	12.4
516 047	Pressure gauge	3	0.3
516 048	Pressure gauge	1	0.3
516 049	Pressure gauge	1	-
516 050	Pressure gauge	1	0.3
516 052	Indicator	5	-

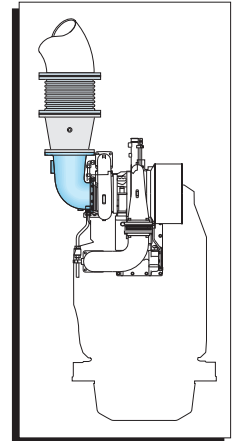
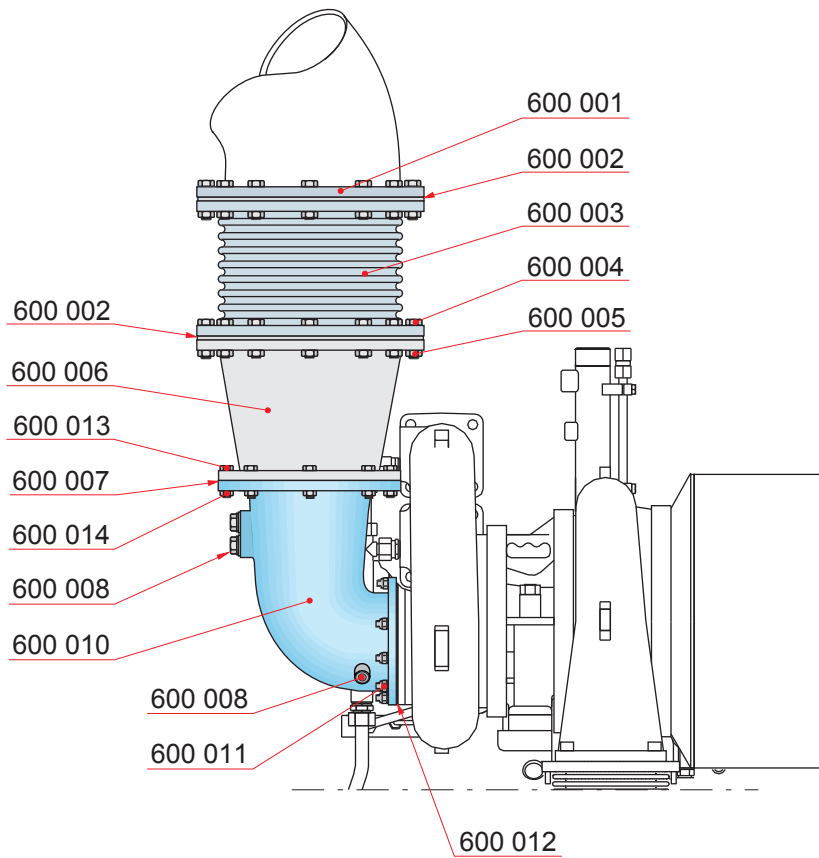
Edition: A
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 Updated: 10.05.1999

Instrument panel



Part No.	Description	Qty [Pcs]	Wt. [Kg]
516 028	Instrument panel	1	12.4
516 041	Cover	1	0.8
516 042	Text plate	1	-
516 043	Hose	6	-
516 045	Connection nut	12	-
516 046	Cutting ring	12	-
516 051	Screw	3	-
516 016	Screw	3	-
516 017	Pipe clamp	3	-
516 018	Screw	2	-
516 019	Bracket	1	-
516 025	Screw	3	-
516 026	Screw	6	-
516 027	Vibration damper	3	-

Bend and connections after turbocharger, TPS 48/52

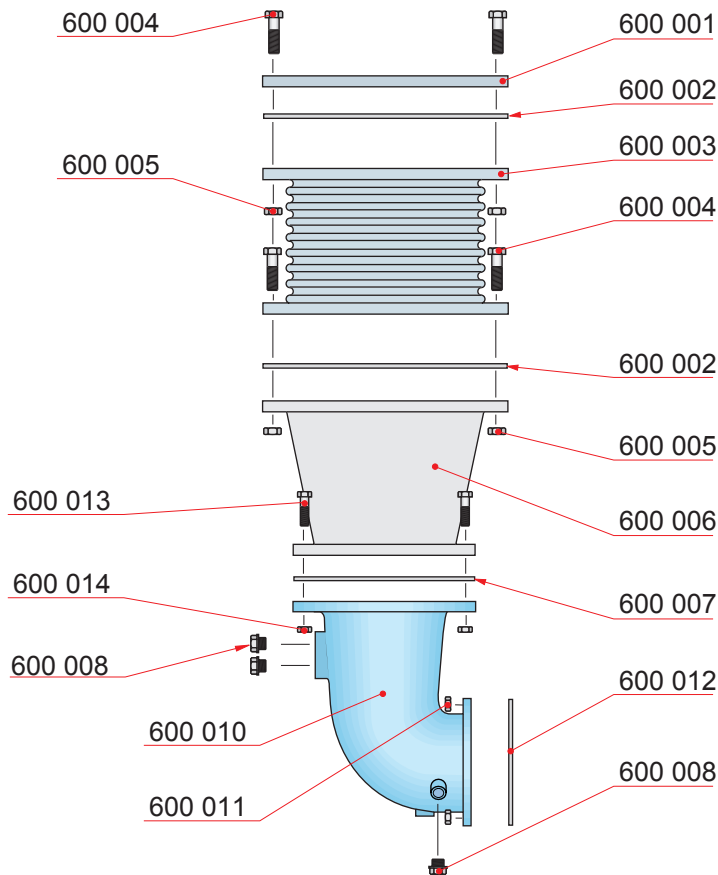


Part No.	Description	Qty [Pcs]	Wt. [Kg]
600 001	Flange	1	-
600 005	Nut	24	-
600 008	Plug	6	-
600 011	Nut	12	-
600 014	Nut	8	-
600 002	Gasket	1	-
600 003	Bellows	1	-
600 004	Screw	24	-
600 006	Connection piece	1	-
600 007	Gasket	1	-
600 010	Exhaust pipe	1	-
600 012	Sealing ring	1	-
600 013	Screw	8	-

Edition: C

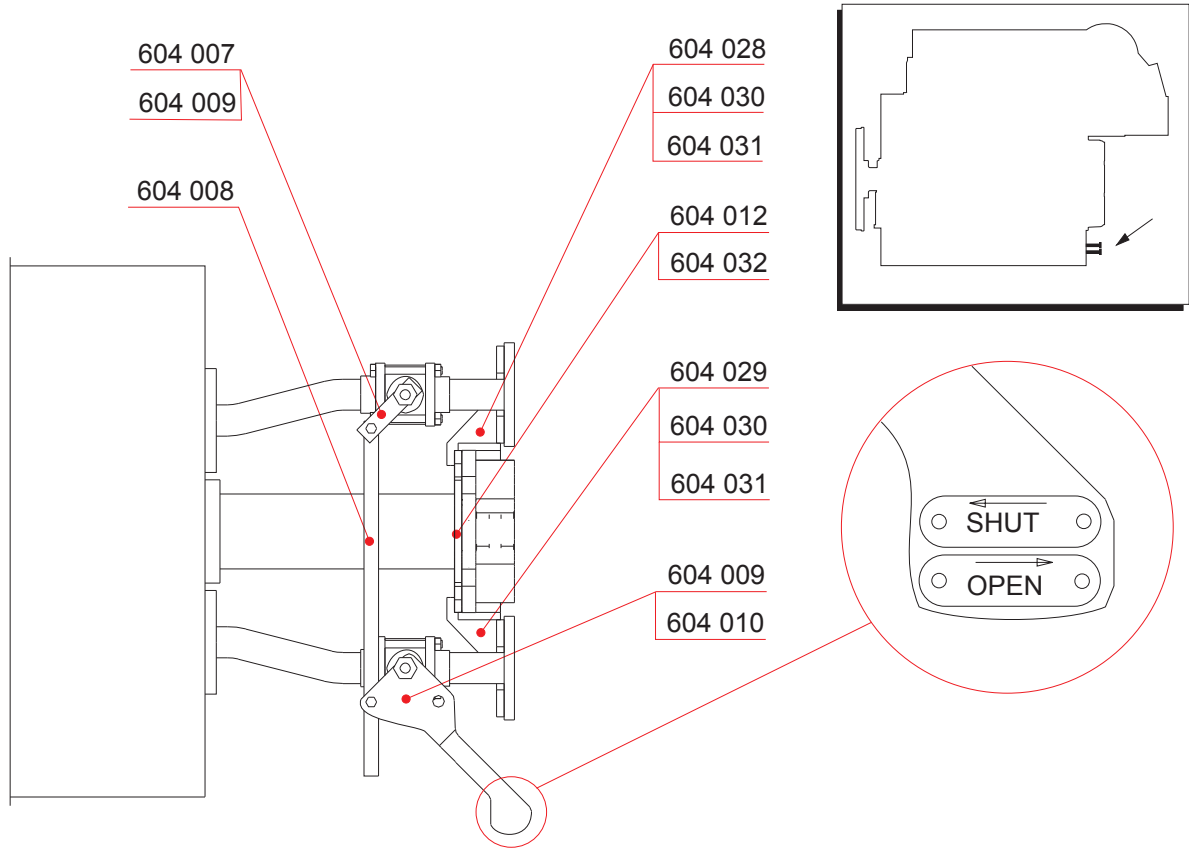
Page: 2(2)

Updated: 10.11.1998

Bend and connections after turbocharger, TPS 48/52

Part No.	Description	Qty [Pcs]	Wt. [Kg]
600 001	Flange	1	-
600 002	Gasket	1	-
600 003	Bellows	1	-
600 004	Screw	24	-
600 005	Nut	24	-
600 006	Connection piece	1	-
600 007	Gasket	1	-
600 008	Plug	6	-
600 010	Exhaust pipe	1	-
600 011	Nut	12	-
600 012	Sealing ring	1	-
600 013	Screw	8	-
600 014	Nut	8	-

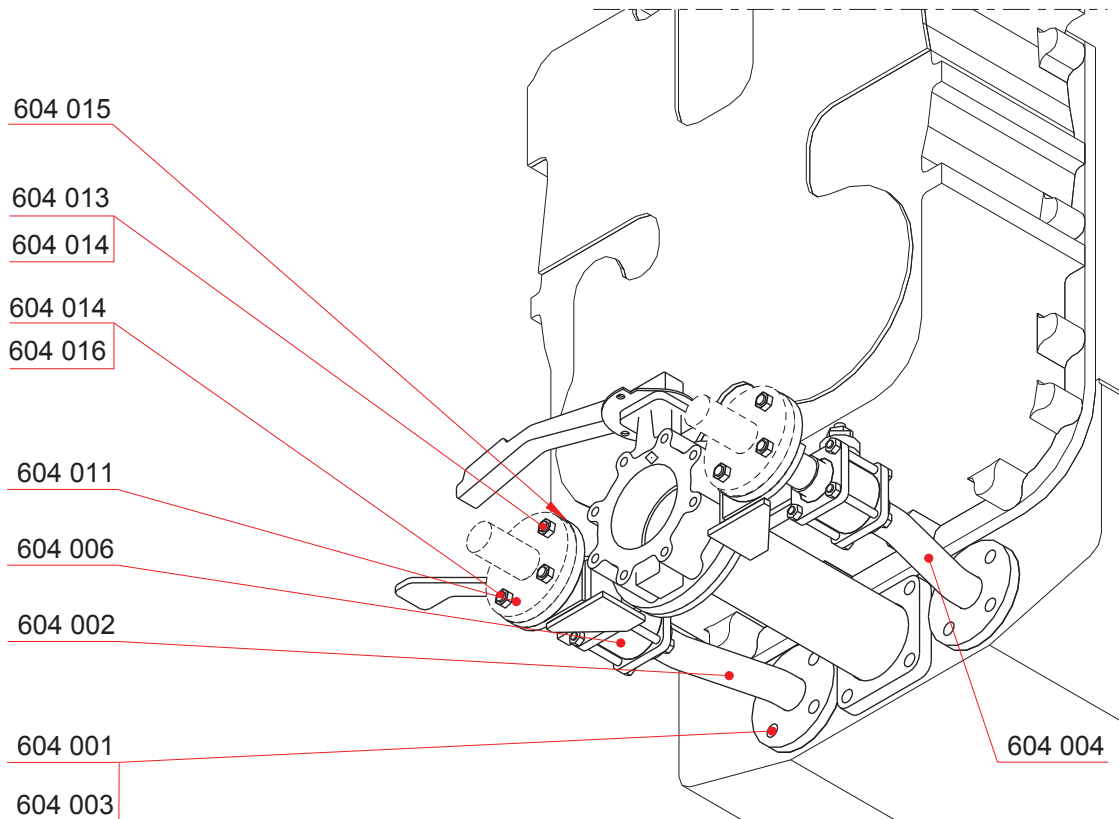
Piping for separator



Part No.	Description	Qty [Pcs]	Wt. [Kg]
604 007	Lever	1	-
604 009	Nut	2	-
604 031	Nut	1	-
604 008	Lever	1	-
604 010	Lever	1	-
604 012	Bracket	1	-
604 028	Bracket	1	-
604 029	Bracket	1	-
604 030	Screw	4	-
604 032	Screw	4	-

Edition: B
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 Updated: 21.04.1997

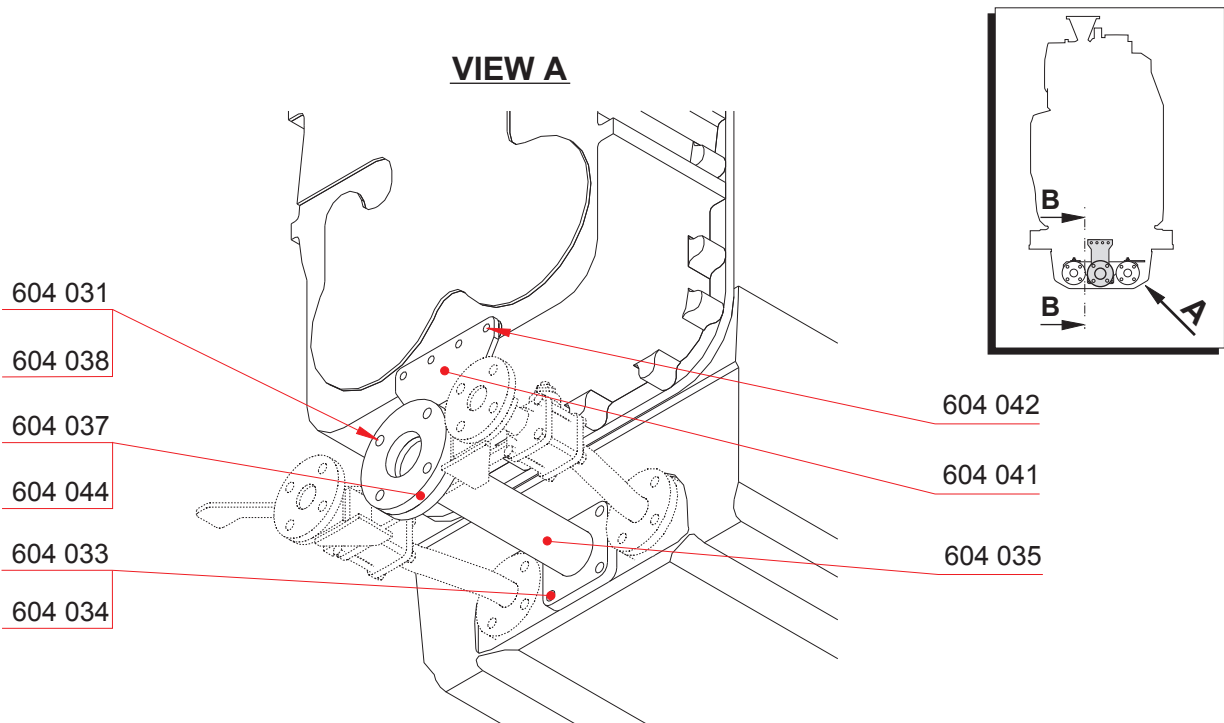
Piping for separator



Part No.	Description	Qty [Pcs]	Wt. [Kg]
604 001	O-ring	2	-
604 011	Pipe	2	-
604 014	Nut	8	-
604 002	Pipe (1)	2	-
604 003	Screw	8	-
604 004	Pipe (2)	1	-
604 006	Valve	2	-
604 013	Screw	4	-
604 015	Gasket	2	-
604 016	Screw	4	-

NOTE! (1) if different than 604 004 1pcs (2) according to installation.

Connection for overflow pipe

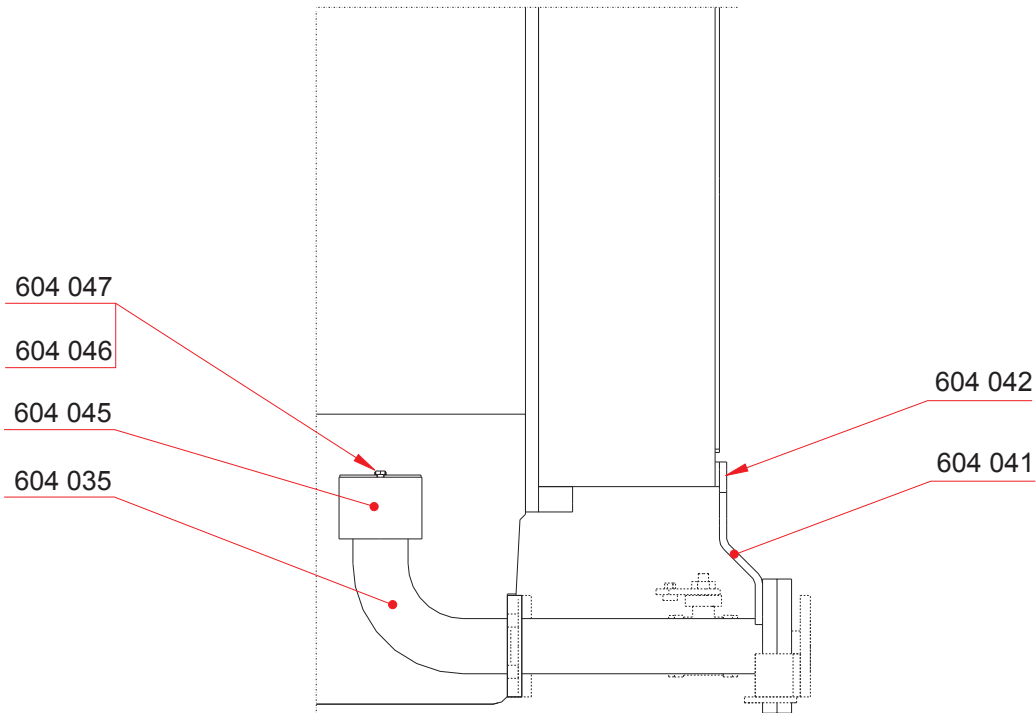


Part No.	Description	Qty [Pcs]	Wt. [Kg]
604 031	Nut	2	-
604 033	O-ring	1	-
604 035	Pipe	1	-
604 034	Screw	4	-
604 037	Gasket	1	-
604 038	Screw	4	0.1
604 041	Bracket	1	3.0
604 042	Screw	4	-
604 044	Flange	1	2.8

Edition: B

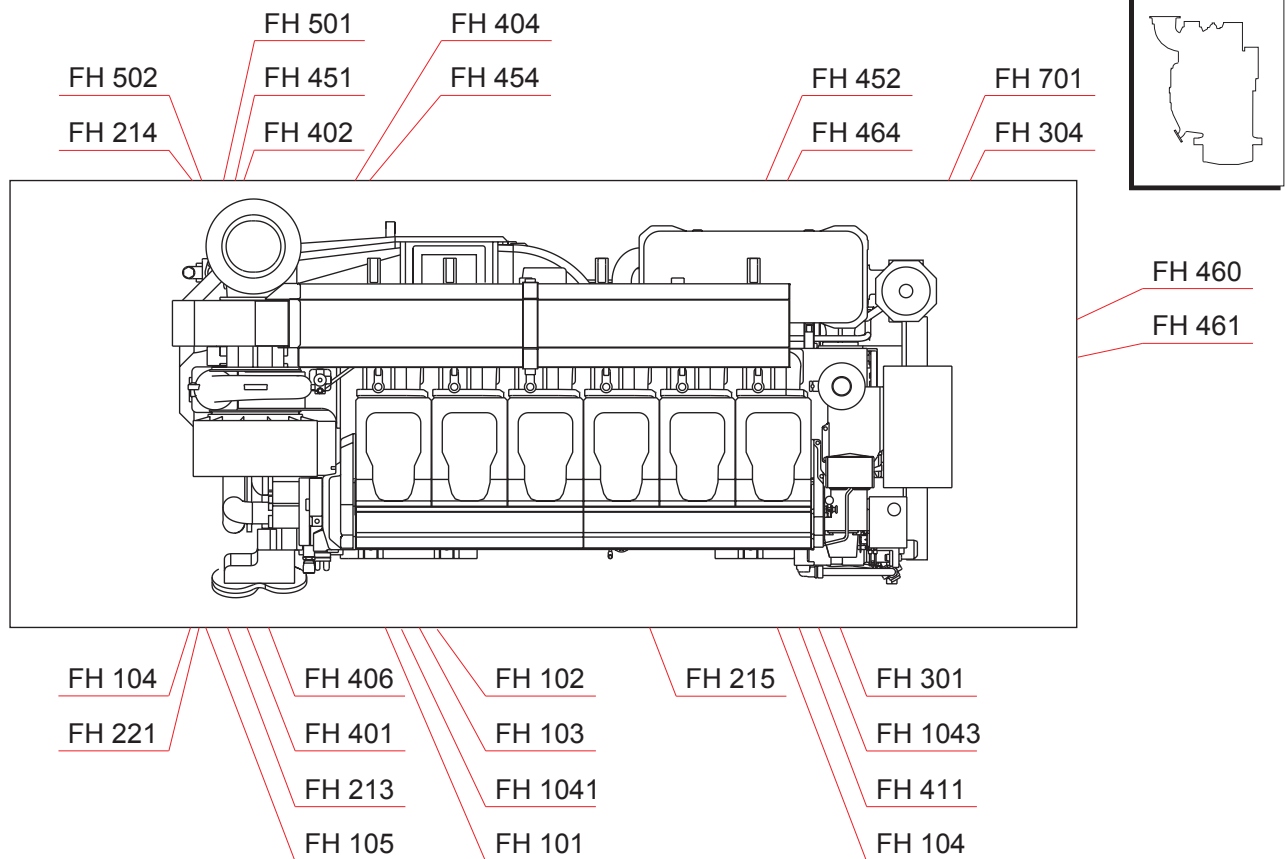
Page: 2(2)

Updated: 02.10.1996

Connection for overflow pipe**SECTION B-B**

Part No.	Description	Qty [Pcs]	Wt. [Kg]
604 035	Pipe	1	-
604 041	Bracket	1	3.0
604 042	Screw	4	-
604 045	Bellows	1	-
604 046	Screw	2	-
604 047	Nut	2	-

Flexible hoses



Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
FH1041	Flexible hose, leak fuel drain, dirty fuel	1	-	FH701	Flexible hose, crankcase air vent	1	-
FH1043	Flexible hose, leak fuel drain, dirty fuel	1	-	FH102	Flexible hose, fuel outlet	1	-
FH101	Flexible hose, fuel inlet	1	-	FH103	Flexible hose, leak fuel drain, clean fuel	1	-
FH406	Flexible hose, water from preheater to HT-circuit	1	-	FH104	Flexible hose, leak fuel drain, dirty fuel	2	-
FH411	Flexible hose, HT water drain	1	-	FH105	Flexible hose, fuel stand-by connection	1	-
FH451	Flexible hose, LT water inlet	1	-	FH213	Flexible hose, lube oil from separator and filling	1	-
FH452	Flexible hose, LT water outlet	1	-	FH214	Flexible hose, lube oil to separator and drain	1	-
FH454	Flexible hose, LT water air vent	1	-	FH215	Flexible hose, lube oil filling	1	-
FH460	Flexible hose, LT water to generator	1	-	FH221	Flexible hose, lube oil overflow	1	-
FH461	Flexible hose, LT water from generator	1	-	FH301	Flexible hose, starting air inlet	1	-
FH464	Flexible hose, LT water drain	1	-	FH304	Flexible hose, control air to speed governor	1	-
FH501	Flexible hose, exhaust gas outlet	1	-	FH401	Flexible hose, HT-water inlet	1	-
FH502	Flexible hose, cleaning water to turbine	1	-	FH402	Flexible hose, HT water outlet	1	-

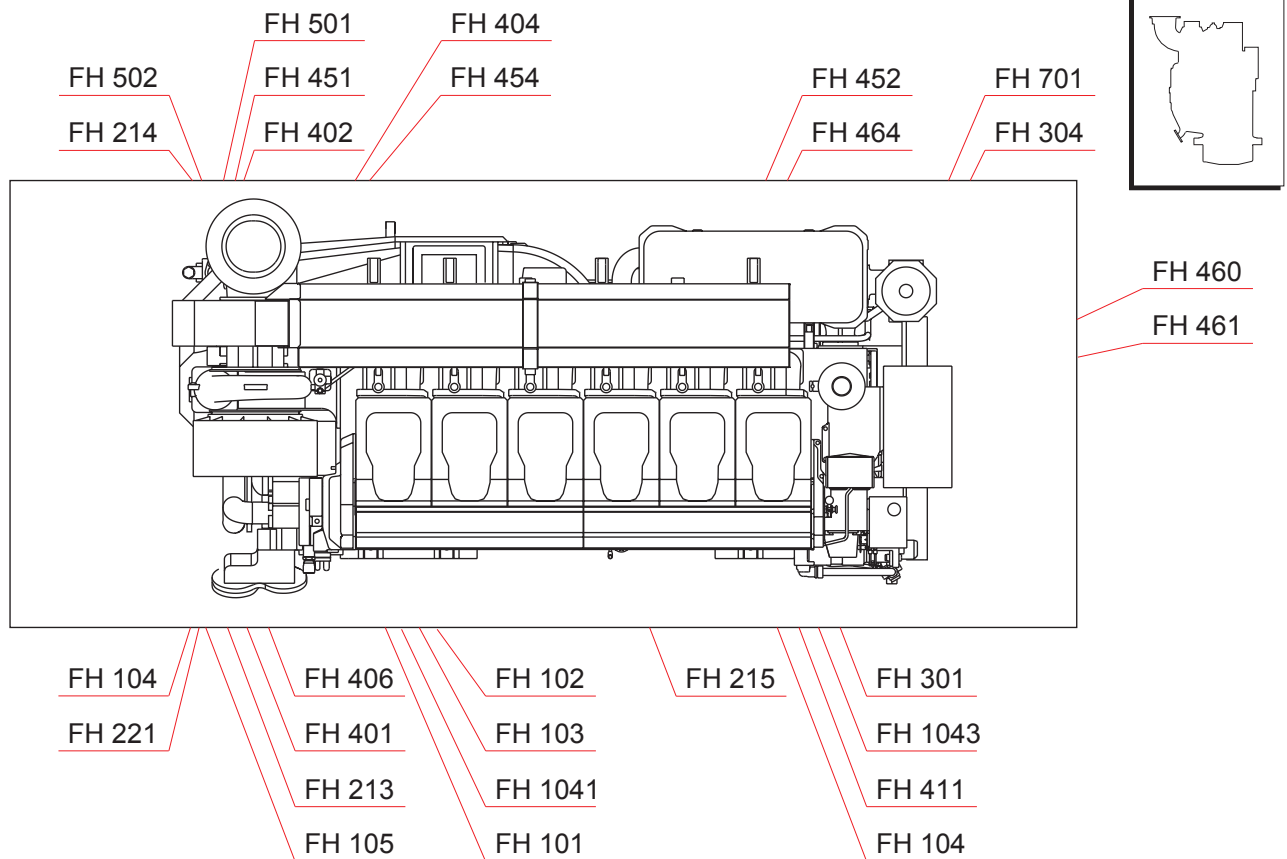
Part No.	Description	Qty [Pcs]	Wt. [Kg]
FH404	Flexible hose, HT water air vent	1	-

NOTE!
NOTE!

* Quantity according to installation
When ordering spare parts, check
codes and names in General
Arrangement (1V58A....) for the
specific installation.

Edition: A
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 Updated: 13.02.2001

Flexible hoses

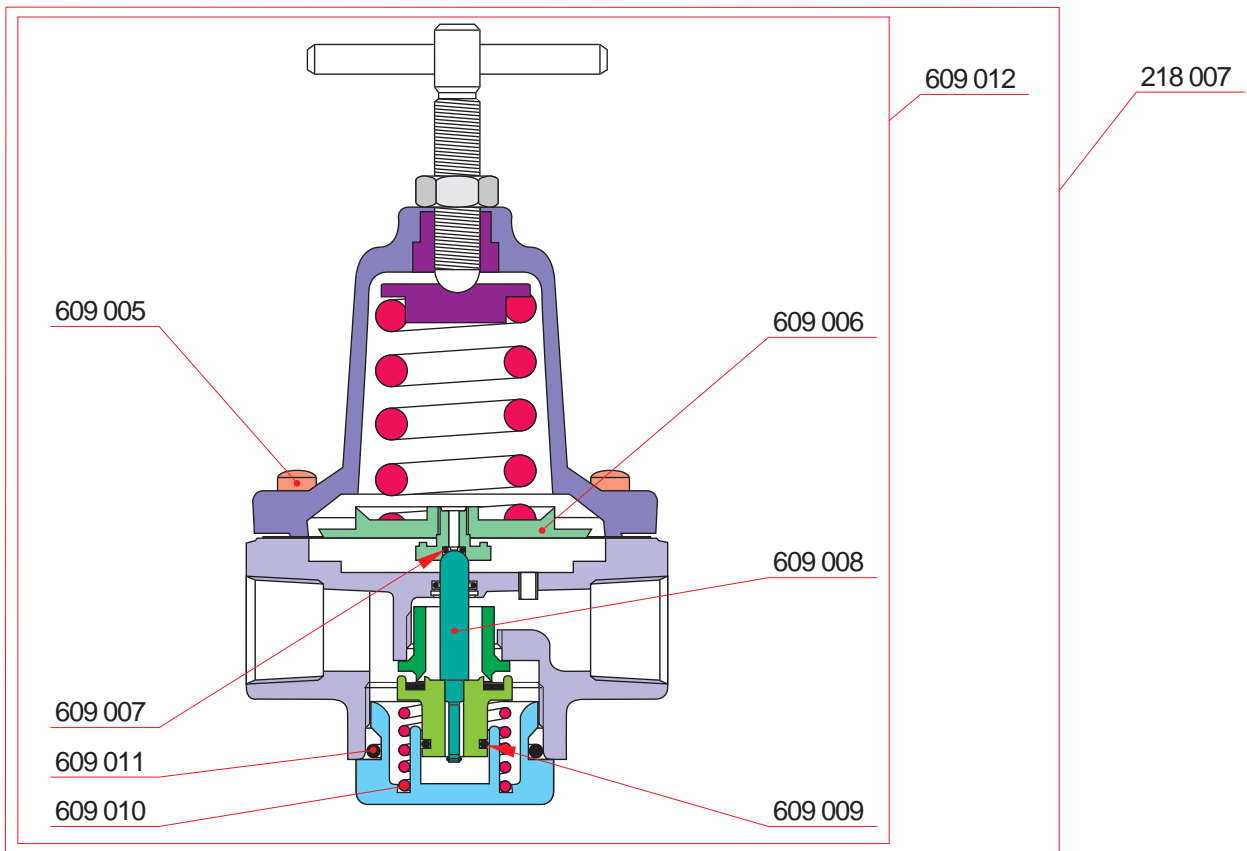


Part No.	Description	Qty [Pcs]	Wt. [Kg]	Part No.	Description	Qty [Pcs]	Wt. [Kg]
FH101	Flexible hose, fuel inlet	1	-	FH406	Flexible hose, water from preheater to HT-circuit	1	-
FH102	Flexible hose, fuel outlet	1	-	FH411	Flexible hose, HT water drain	1	-
FH103	Flexible hose, leak fuel drain, clean fuel	1	-	FH451	Flexible hose, LT water inlet	1	-
FH104	Flexible hose, leak fuel drain, dirty fuel	2	-	FH452	Flexible hose, LT water outlet	1	-
FH105	Flexible hose, fuel stand-by connection	1	-	FH454	Flexible hose, LT water air vent	1	-
FH213	Flexible hose, lube oil from separator and filling	1	-	FH460	Flexible hose, LT water to generator	1	-
FH214	Flexible hose, lube oil to separator and drain	1	-	FH461	Flexible hose, LT water from generator	1	-
FH215	Flexible hose, lube oil filling	1	-	FH464	Flexible hose, LT water drain	1	-
FH221	Flexible hose, lube oil overflow	1	-	FH501	Flexible hose, exhaust gas outlet	1	-
FH301	Flexible hose, starting air inlet	1	-	FH502	Flexible hose, cleaning water to turbine	1	-
FH304	Flexible hose, control air to speed governor	1	-	FH701	Flexible hose, crankcase air vent	1	-
FH401	Flexible hose, HT-water inlet	1	-	FH1041	Flexible hose, leak fuel drain, dirty fuel	1	-
FH402	Flexible hose, HT water outlet	1	-				
FH404	Flexible hose, HT water air vent	1	-				

Part No.	Description	Qty [Pcs]	Wt. [Kg]
FH1043	Flexible hose, leak fuel drain, dirty fuel	1	-

NOTE! When ordering spare parts, check codes and names in General Arrangement (1V58A....) for the specific installation.

Pressure reducing valve

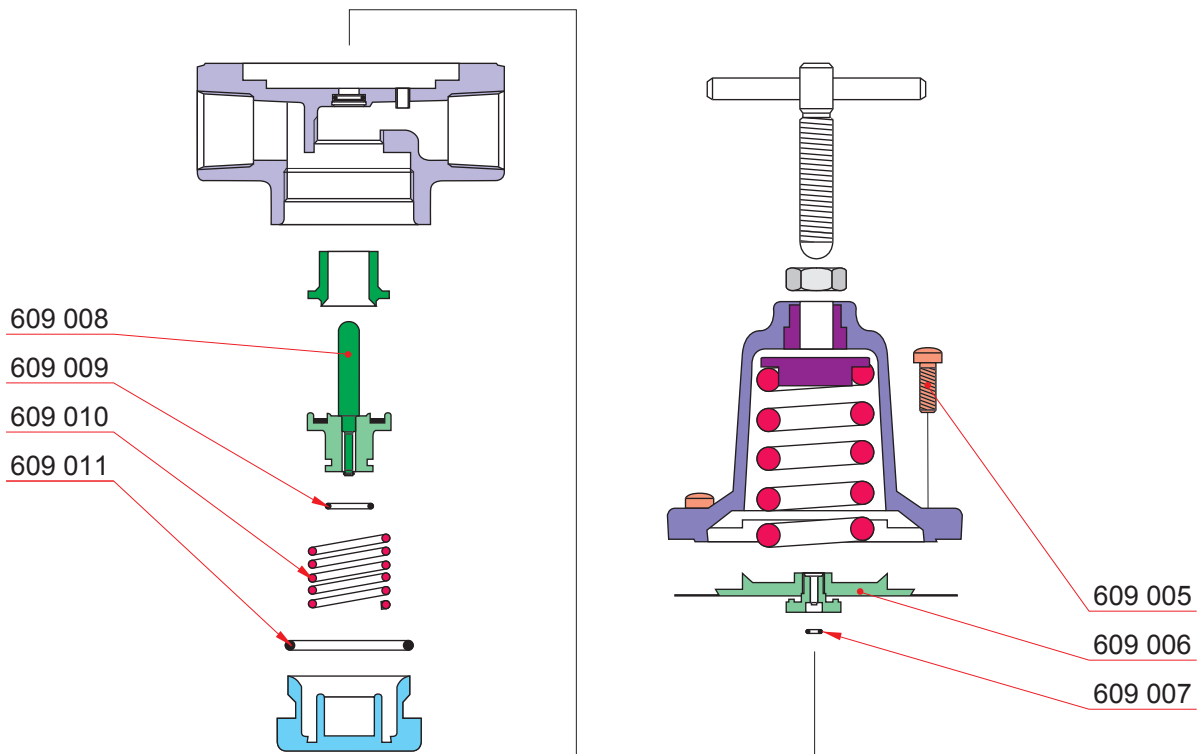


Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 007	Pressure regulating valve	1	-
609 012	Spare part kit (1)	1	-
609 005	Screw	6	-
609 006	Diaphragm	1	-
609 007	O-ring	1	-
609 008	Valve	1	-
609 009	O-ring	1	-
609 010	Spring	1	-
609 011	O-ring	1	-

NOTE! (1) Only spare part set can be ordered.

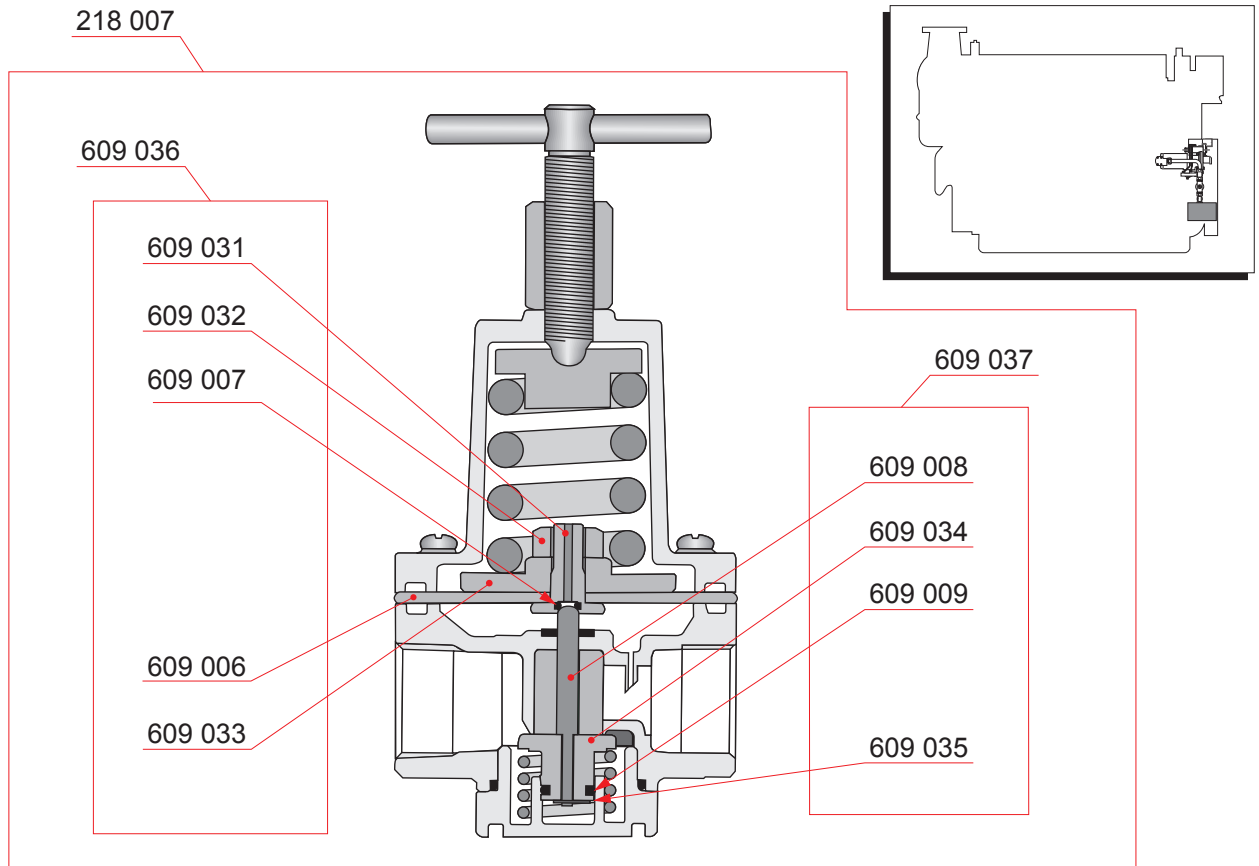
Edition: A
 Page: 2(2)
 Updated: 26.05.1999

Pressure reducing valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
609 005	Screw	6	-
609 006	Diaphragm	1	-
609 007	O-ring	1	-
609 008	Valve	1	-
609 009	O-ring	1	-
609 010	Spring	1	-
609 011	O-ring	1	-

Pressure regulating valve



Part No.	Description	Qty [Pcs]	Wt. [Kg]
218 007	Pressure regulating valve	1	-
609 036	Spare part kit (1)	1	0.2
609 006	Diaphragm	1	-
609 007	O-ring	1	-
609 031	Relief valve	1	-
609 032	Nut	1	-
609 033	Shell	1	-
609 037	Spare part kit (2)	1	-
609 008	Valve	1	-
609 009	O-ring	1	-
609 034	Valve	1	-
609 035	Retaining ring	1	-

NOTE! (1) Diaphragm assembly

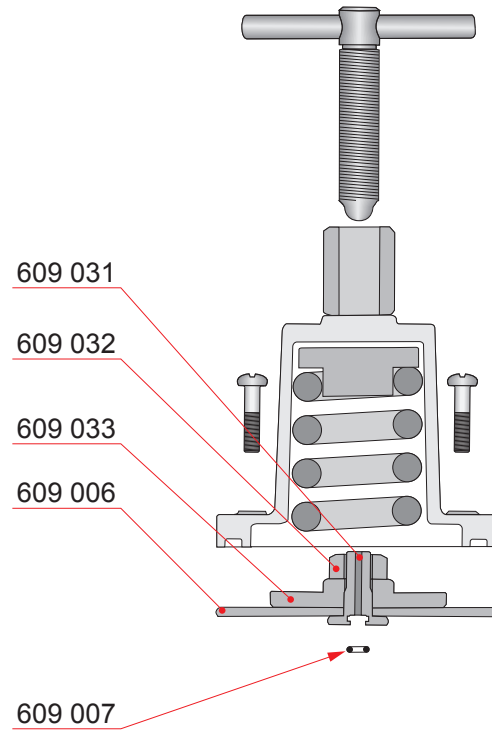
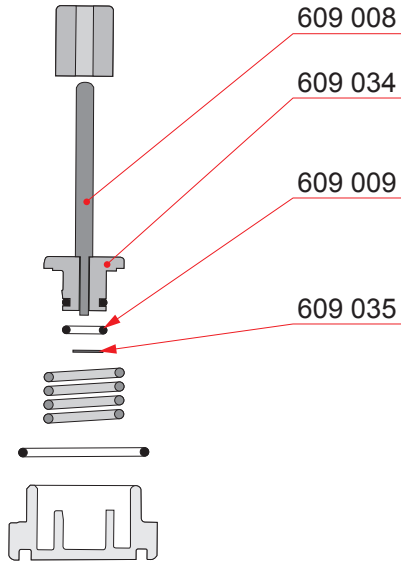
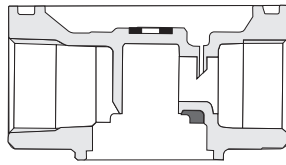
NOTE! (2) Valve assembly

NOTE! Only spare part kit can be ordered.

Edition: C

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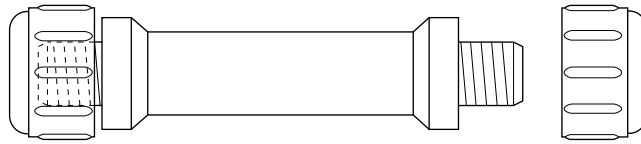
Updated: 19.02.2014

Pressure regulating valve

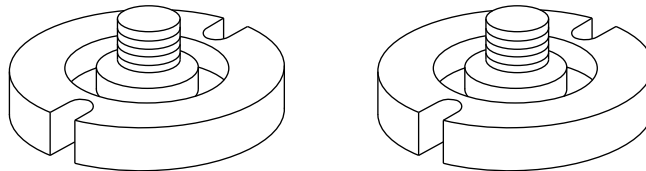
Part No.	Description	Qty [Pcs]	Wt. [Kg]
609 006	Diaphragm	1	-
609 007	O-ring	1	-
609 008	Valve	1	-
609 009	O-ring	1	-
609 031	Relief valve	1	-
609 032	Nut	1	-
609 033	Shell	1	-
609 034	Valve	1	-
609 035	Retaining ring	1	-

Fluid sample kit for vibration dampers

848 017



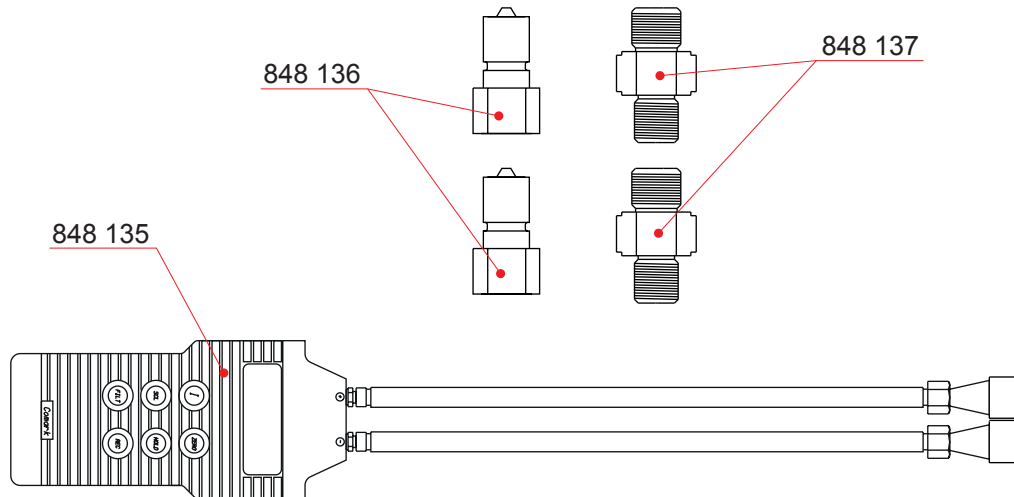
848 018



Part No.	Description	Qty [Pcs]	Wt. [Kg]
848 017	Sample kit	1	-
848 018	Plug kit	1	-

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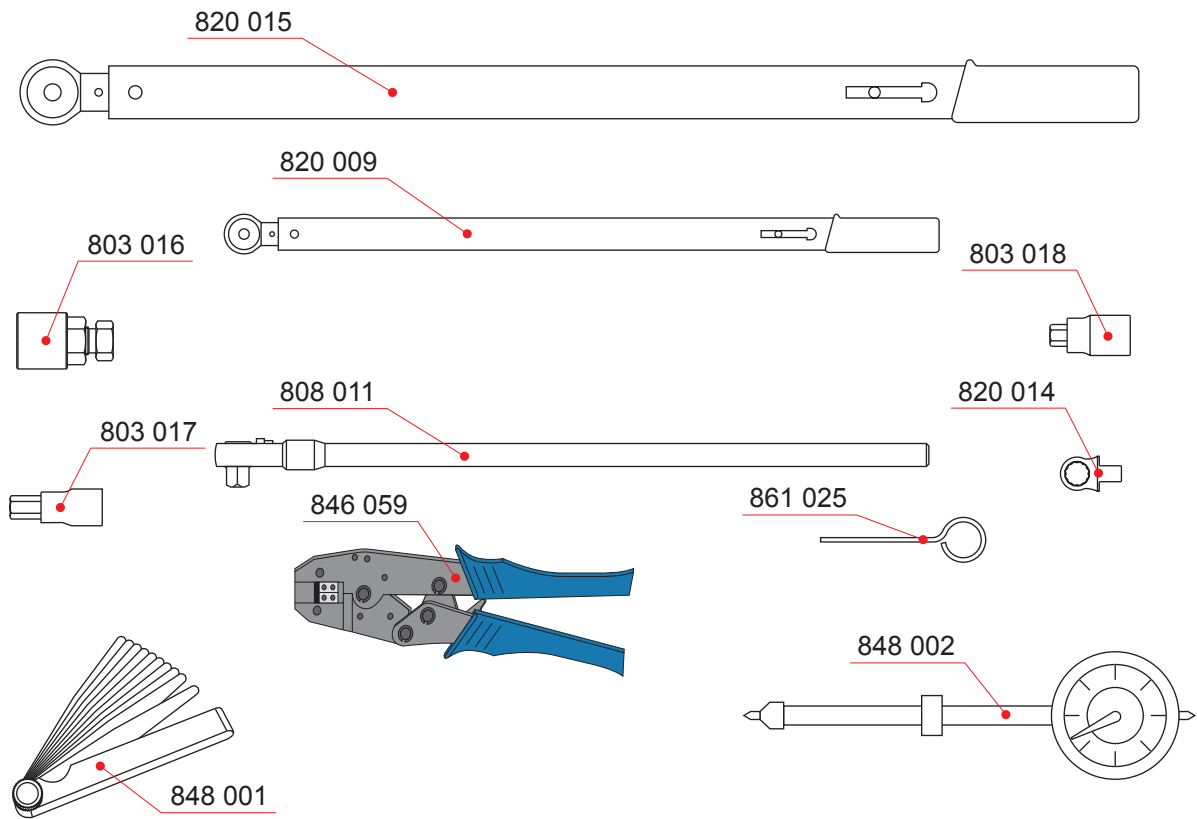
Pressure difference indicator for charge air cooler



Part No.	Description	Qty [Pcs]	Wt. [Kg]
848 135	Pressure difference indicator	1	3.0
848 136	Quick coupling	2	-
848 137	Double nipple	2	-

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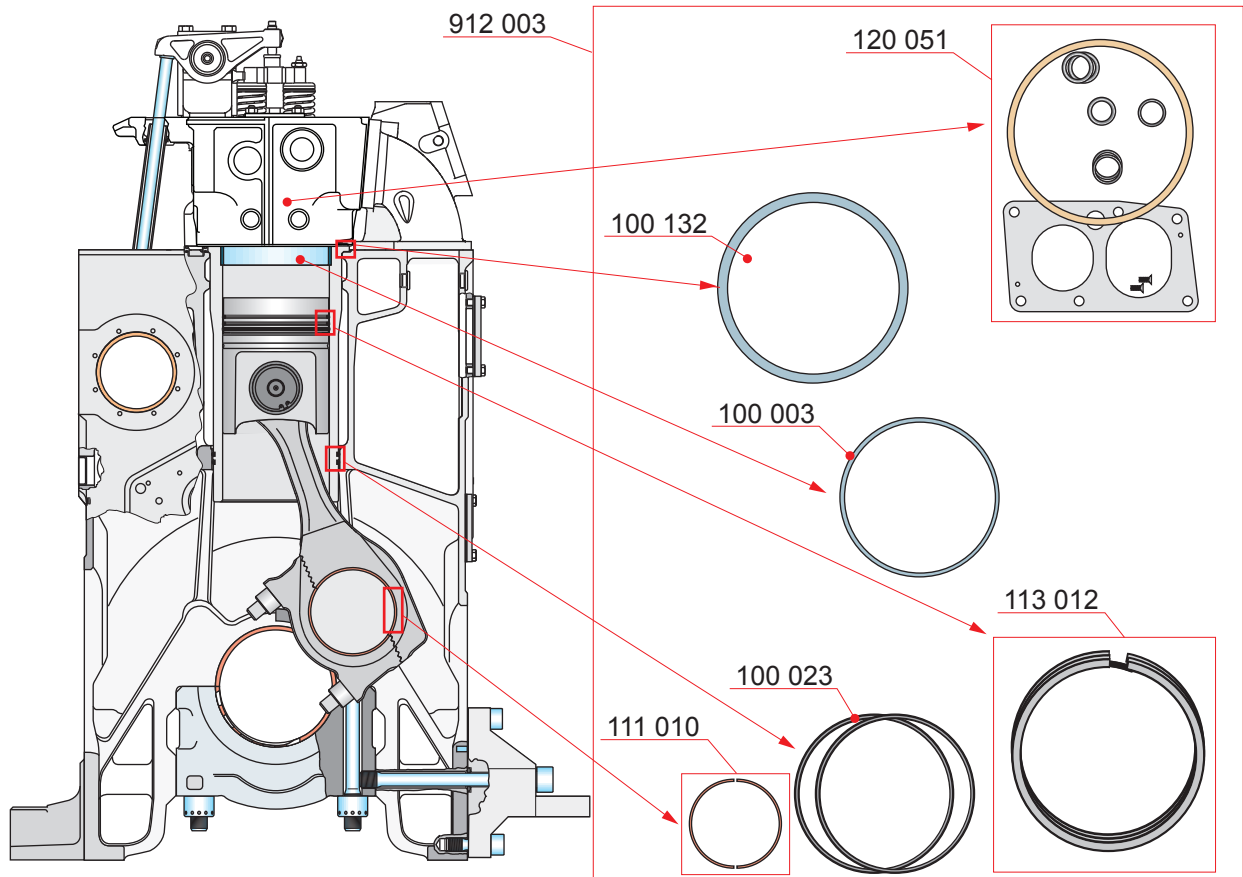
Miscellaneous tools



Part No.	Description	Qty [Pcs]	Wt. [Kg]
803 016	Stud remover M36	1	0.5
803 017	Hexagon socket wrench 19	1	0.4
803 018	Bit 17 for hexagon socket screw 3/4" square drive	1	0.3
808 011	Ratchet with torque arm 3/4" square	1	2.9
820 009	Torque wrench 75-400 Nm	1	2.3
820 014	Ring insert wrench 19	1	0.1
820 015	Torque wrench 150-800 Nm	1	5.4
846 059	Hand crimping tool	1	-
848 001	Feeler gauge set	1	-
848 002	Measure gauge for crankshaft deflection	1	0.6
861 025	Pin for tightening of nuts	2	-

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Cylinder unit overhaul set



Part No.	Description	Qty [Pcs]	Wt. [Kg]
912 003	Cylinder unit overhaul set	1	0.1
100 003	Anti-polishing ring	1	-
100 023	Sealing ring	2	-
100 132	Shim ring *	1	-
111 010	Big end bearing kit **	1	-
113 012	Piston ring kit	1	-
120 051	Sealing set for cylinder head removal	1	-

NOTE! * Set contains standard size shim ring 0.5 mm if originally fitted.

NOTE! ** Set contains standard size bearings.

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