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L60MC
EDITION 8

**VOLUME III-COMPONENTS
DESCRIPTION**

Instructions for Main Engine

Type L60MC

This book forms part of a set of books consisting of three volumes entitled:

- Vol. I OPERATION
- Vol. II MAINTENANCE
- Vol. III COMPONENTS AND DESCRIPTIONS

The purpose of these books is to provide general guidance on operation and maintenance and to describe the constructional features of a standard version of the above engine type. Deviations may be found in a specific plant. In addition, the books can be used for reference purposes, for instance in correspondence and when ordering spare parts.

It is essential that the following data is stated in spare parts orders as it is used by us to ensure the supply of the correct parts for the individual engines:

1. Name of vessel
2. Engine No. built by
3. Plate No.
4. Part No.
5. Quantity required (and description)

Example: M/S Nybo - 7730 B&W - 90201 - 00 - 059
 10 off (piston ring)

If the parts list indicates a 'MAN B&W Standard No.', this should also appear in your order.

Furthermore, to ensure optimum efficiency, reliability and lifetime of the engine and its components, only original spare parts should be used.

The designation 'D' used in texts and illustrations refers to the information given on the data-sheets inserted in the respective books.

As reliable and economical operation of the diesel engines is conditional on correct operation and maintenance, it is essential that the engine-room personnel is fully acquainted with the contents of this book.

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Cylinder Cover

General

The cylinder cover is made of steel and has a central bore for the exhaust valve, which is attached by means of four studs. The cover furthermore has bores for the fuel valves, which are resiliently mounted with disc spring housings with disc springs under the nuts of the studs. Other bores have been provided for starting valve, starting air inlet, safety valve and indicator cock.

A cooling jacket is mounted on the lower part of the cylinder cover, whereby a cooling water space is formed.

Another cooling water space is formed around the exhaust valve seat, when the exhaust valve is installed. These two spaces communicate through a large number of oblique/radial cooling bores in the cover.

The water is supplied from the cooling jacket surrounding the cylinder liner and passes through water transitions to the cooling jacket surrounding the cylinder cover, and further on, through the cooling bores, to the space around the exhaust valve seat.

From here the water leaves the cover through two separate bores:

- through the one bore, the water is discharged to the main cooling water outlet pipe,
- through the other bore, the water is passed through the exhaust valve housing to the main cooling water outlet pipe.

Sealing between the cylinder cover and cylinder liner is obtained by means of a sealing ring, made of mild steel.

Hydraulic Ring for Cylinder Cover

The cylinder cover is tightened against the top of the cylinder liner by means of studs fitted in the cylinder block. On top of the cylinder cover a steel ring is located incor-

porating a hydraulic tightening device for each of the cover attachment studs.

The cylinders of the tightening devices are arranged as bores in this ring, inter-connected through drilled oil ducts. Each cylinder is equipped with a ring-shaped piston and two sets of sealing rings.

The cylinder cover nuts each consist of an inner nut fitted on the cover stud and bearing against the piston of the tightening device, and an outer nut suiting the external thread of the inner nut.

When tightening the cover, the inner nut, and thus the piston of the tightening device, is screwed on with the tommy bar. When hydraulic pressure is applied to the system, the piston of the tightening device is pressed upwards resulting in the cover stud being slightly lengthened, whereafter the outer nut is tightened (down) with the tommy bar. When the system is relieved of hydraulic pressure, the tightening pressure is transmitted through the outer nut, to the cylinder cover.

A snap-on coupling for connection of the hydraulic high-pressure pump is fitted on the side of the hydraulic ring between two of the tightening devices at the camshaft side of the engine. On top of the ring, bleed screws are located between the devices. These are to be opened when filling or venting the system.

The hydraulic ring and the cylinder cover are provided with four corresponding threaded holes for eye bolts, by means of which either the ring or the cover with ring can be lifted away. However, the ring is not usually to be separated from the cylinder cover.

In an emergency situation, the nuts can also be loosened by means of a special spanner. However, this spanner must never be used for tightening-up purposes.



Cylinder Cover

Plate 90101-90

L60MC

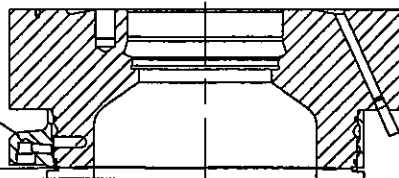
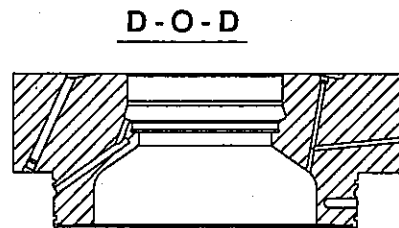
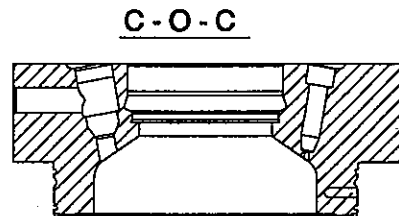
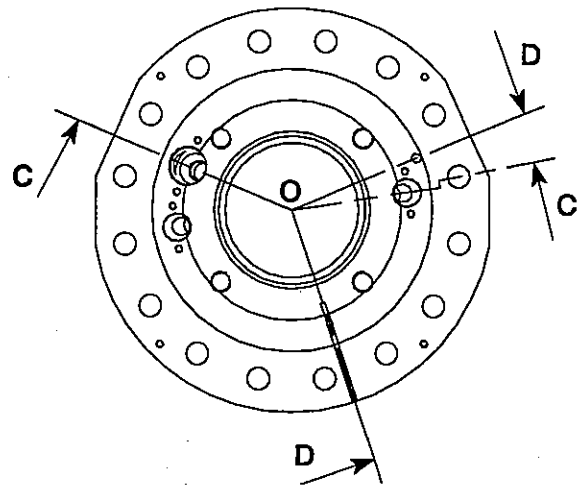
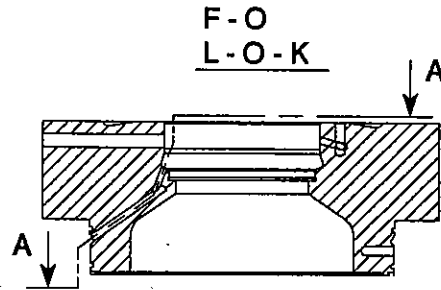
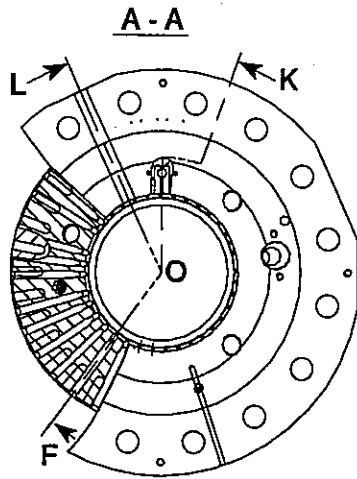
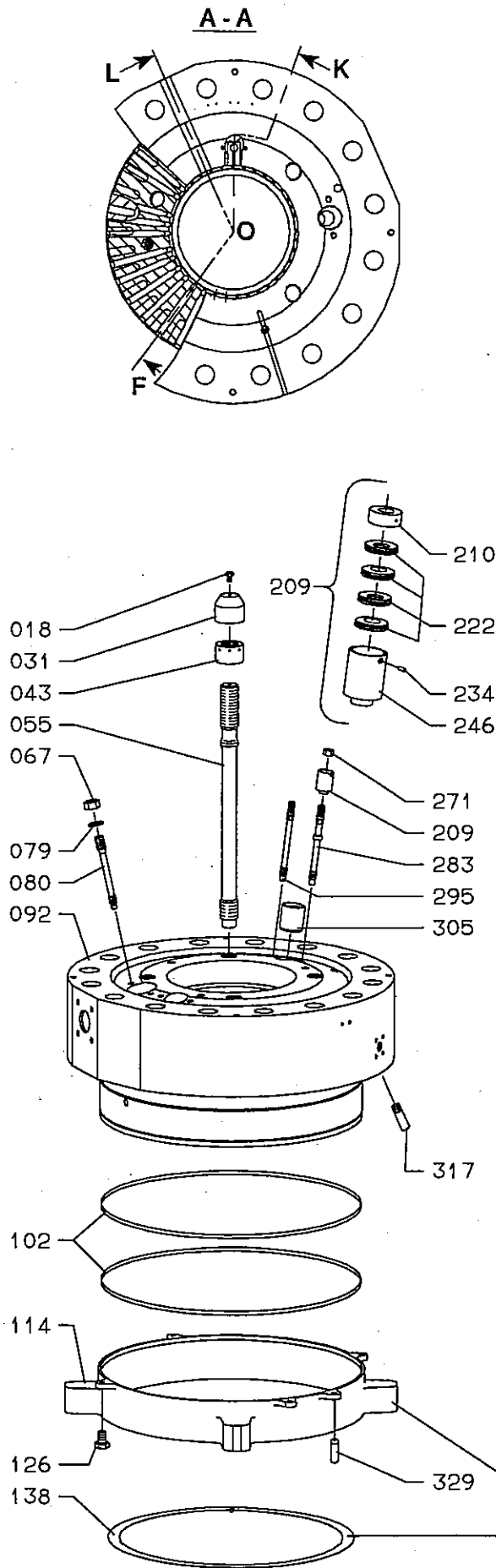


Plate 90101-90 Cylinder Cover

Item No.	Part Description	MAN B&W Standard No.	
018	Screw	EN61V1216	
031	Cover		
043	Nut	EN73L56	
055	Stud for exhaust valve		
067	Nut	EN91R24	
079	Washer		
080	Stud		
092	Cylinder cover		
102	O-ring		
114	Cooling jacket		
126	Screw	EN61V1230	
138	Gasket		
209	Spring housing, complete		
210	Disc		
222	Disc spring	EN36D40	
234	Pin	EN1P38	
246	Spring housing		
271	Nut	EN91M18	
283	Stud		
295	Stud		
305	Pipe for fuel valve		
317	Pipe branch	EN170J26100	
329	Pin	EN1P828	