

# Technical Documentation Engine Spare Parts Catalogue

Engine ..... L 48/60

Works No. .... Edition only for Information

Plant No. ....

6645-1

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|  |  |  |  |  | <input type="checkbox"/> | 221.01 | Fuel injection valve   |
|  |  |  |  |  | <input type="checkbox"/> | 221.03 | Fuel injection nozzle  |
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**Categories of information**

										Information
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- 400.01 Drive of pulse transmitter
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- 447.40 Injection valve cooling and cooling water venting
- 447.69 Cooling water supply pipe
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**Categories of information**

Information

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# Introduction

- 1 Introduction
- 2 List of Assemblies
- 3 Spare Parts (Engine)

Spare parts/spare parts catalogues

Maintenance and repair work can only be carried out properly if the necessary spare parts are available. They are to be kept on stock or ordered in time. The ordering numbers required for the delivery of spare parts can be looked up in the spare parts catalogues. This is the spare parts catalogue for the engine.

The organisational pattern of this spare parts catalogue is explained in Section 1.3. Ordering numbers for components of the turbocharger, for measuring, control and regulating equipment and for the engine and systems accessories are given in other modules of the technical documentation. References to this are given in Section 1.2.

Yours sincerely,

MAN B&W Diesel AG

# Spare Parts Catalogues as Modules of the Technical Documentation

1.2

## Survey

Spare parts catalogues serve for ordering spare parts and to identify components from MAN B&W Diesel AG's scope of supply. The required information is partly to be taken from other sources of information. The following modules are available within the technical documentation system:

<b>Components/subassemblies</b>	<b>Sources of information</b>	<b>Volume of the technical documentation</b>
Engine	Spare parts catalogue	B3
Turbocharger	Spare parts catalogue	C3
Tools (Engine)	Information contained in the work cards	B2
	List	B6
Tools (Turbocharger)	List in the turbocharger tool box	/
	Information contained in the work cards	C2
Measuring, control and regulating instruments	List of measuring and regulating instruments	D1 to D...
Engine and system accessories	Spare parts catalogue/spare parts sheet depending on manufacturer and product	E1 to E...

Table 1. Spare parts catalogues and equivalent sources of information

## Spare parts for engines and turbochargers

Spare parts for engines and turbochargers can be identified by means of the spare parts catalogues contained in Volumes B3 and C3 of the technical documentation. Illustration sheets are provided which permit to identify the ordering numbers via item numbers. The spare parts sheets are arranged according to the order of the subassemblies.

## Spare parts for tools/ordering of tools (engine and turbocharger)

Complete tools can be ordered using the tools list in Volume B6 of the technical documentation, or by means of the list of contents in the tool box for turbochargers. The ordering numbers, however, can also be looked up in the respective work cards contained in Volumes B2 and C2. In this way, it is also possible to identify/order individual parts of the tools.



## Spare parts for measuring, control and regulating systems

Information on spare parts for measuring, control and regulating instruments, e.g. temperature sensors, relays, transducers, pneumatic and hydraulic valves, can be gathered from the documents contained in the Volumes D1 to D..., especially from the "List of measuring and regulating instruments" and the "Control diagram".

## Spare parts for engine and system accessories

For information concerning spare parts for the engine accessories, e.g. the oil mist detector, and for the system accessories, e.g. filters, separators, water softening plants and the like, please refer to the documentation contained in Volumes E1 to E... These documents include the spare parts catalogues and spare parts lists of the respective suppliers.

For ordering spare parts and in case of technical problems with such components, please contact MAN B&W Diesel AG or our authorised Service centres. This way, you maintain your warranty claims. We, on the other hand, ensure that you receive genuine spare parts exclusively.

# Organisation and Use of the Spare Parts Catalogue

1.3

## Instructions for use

What does the spare parts catalogue contain/what not?

The spare parts catalogue covers

- all essential components of the engine,
- pipes with a nominal diameter  $\geq 10$  mm,
- parts for use in the operating systems and associated pneumatic/hydraulic systems.

The spare parts catalogue does not contain

- subordinate or plant-specific insulations/coverings and
- subordinate cabling, or cabling leading away from the engine/carried out by others.

What can be done if parts are not found?

If parts have to be ordered which the spare parts catalogue does not contain or that are not found, the component and the place where it is installed/mounted should be described as precisely as possible with instant photos possibly attached. Where parts from sub-supplied equipment are concerned, which cannot be found in the sub-suppliers documentation, the information given on the technical data plate should be stated. Your attention is drawn to the information given under the key word "Representation/assignment of adjacent parts" at the end of this section.

Validity/sources of fault

Spare parts catalogues are specifically compiled for the engine version concerned. The present spare parts catalogue is only applicable for the engine or engine group of the works number or group of works numbers given on the cover sheet.

*△ △ Important! Spare parts catalogues cannot be transferred from one engine to another.*

An exception are catalogues called "Office editions", in which all the available sheets of variants of all subassembly groups are contained. Because of the numerous possibilities of faulty use, spare parts catalogues of this type are restricted to internal use.

Spare parts catalogues, which are handed over in advance for information, are marked as "Information edition" by means of a red reference sheet.

*△ △ Important! Information editions are  
Not suitable for ordering spare parts!  
Not suitable for stock planning!  
Not suitable for taking over into EDP systems!*

Exchange sheets

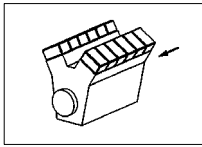
Due to the order-specific revision of the spare parts catalogue, a later exchange service is not necessary as a rule. In case supplementary sheets or exchange sheets are sent to you in spite of that, they are of particular significance. Please make sure that sheets for supplementation or exchange are integrated in all the spare parts catalogues that are available.



### Spare parts designation



### Aid for orientation



### Representation/assignment of neighbouring parts

The spare parts designation can be looked up under the corresponding language symbol in columns 3 to 6.

As an aid for orientation, scaled down representations of the engine are used in the illustrations. They show the engine from the coupling side. Arrows mark the line of vision.

The number of subassembly groups is relatively small, i.e. the number of vague boundaries/cases of doubt whether a part belongs to the subassembly group in question or the neighbouring one is also low. The following rules of representation/assignment should be observed:

- Studs belong to the component to which they are attached. The bolts of main bearings therefore belong to the crankcase, and so do the cylinder head bolts.
- Bushes/sleeves/pins belong to that component into which they are press-fitted. The water-carrying insert which surrounds the fuel injection valve, and the sleeves above belong to the cylinder head, and so do the valve seat rings of inlet and exhaust valves.
- O-rings/sealing rings belong to that part which has the corresponding groove.

# Replacement of components by the New-for-old Principle

1.4

Components of high value that are defective or worn and which reconditioning or repair requires special know-how or equipment, can be replaced by the "Overhauled for old" principle. This is the case with

- Cylinder heads,
- piston crowns,
- valve cages and valves,
- fuel injection nozzles and pumps,
- governors
- compressed air starters/ordinary starters, and
- completely assembled rotors of turbochargers (cartridges).

These parts are available from stock as a rule. If not, they will be reconditioned/repared and returned to you. If such a requirement arises, please ask MAN B&W Diesel AG or the nearest Service Center to send you an offer that is specifically matched to your demand.

# Ordering Spare Parts

1.5

## Information required

To avoid queries, the following information should be provided when ordering spare parts:

Engine type ..... xxxxxxxx  
Works number of the engine ..... x xxx xxx  
Designation of the part ..... xxxxxxxx  
Ordering number ..... xxx.xx.xxx  
Quantity ..... xx  
Shipping address ..... xxxxxxxx  
Mode of shipment ..... xxxxxxxx

## Address

Please address your order to:

MAN B&W Diesel AG                      Telephone: ..... (0821) 322-0  
D-86224 Augsburg                      Telex: ..... 53 796-0 man d  
   Cable address: ..... manbw  
   Telefax: ..... (0821) 322-3574

## Company address

MAN B&W Diesel AG  
Stadtbachstraße 1  
D-86135 Augsburg

# Designation of Spare Parts Supplied

# 1.6

Spare parts are designated prior to dispatch. For this purpose, orange tags or white identity cards are used.

Orange tags

Orange tags are used for parts, which are supplied in connection with the original scope of delivery.



Figure 1. Tag for new parts

An identification of the parts is possible with the aid of the

- ORDER-NO by means of the spare parts catalogue under SPARE PARTS
- ORDER-NO by means of the tools and spare parts lists under TOOLS and ADD SPARE PARTS.

The limitation of the assignment is possible with the aid of the

GROUP-NO by means of the list of subassemblies

SPEC-NO by means of the index numbers of the delivery scope.

White identity cards

White identity cards are used for parts being delivered within the scope of service activities.

Anlagenname Name of plant		Motor-/Turboladertyp Engine-/turbochargertyp		Menge/Quantity	
				bestellt ordered	geliefert supplied
MV DCI DREDGE VI		W6V 17,5/22 MAL		2	2
Unsere Auftrags-Nr. Our order No.	Pos. Nr. Item	Katalog-Nr. Catalogue No.	Service-Nr. Service No.	Itd. Nr. ET Serial No.	
B 651275	001	205-1429	2 526 698	0020 000	
REF:			Bestelldatum/Date of order		
453/SP06/049/2333			15.10.96		
Benennung/Description					
ZSB-OB.KRAFTST.DRUCKROHR					
UPPER FUEL DELIVERY PIPE					
ANLIEFERORT LV2 - A16					

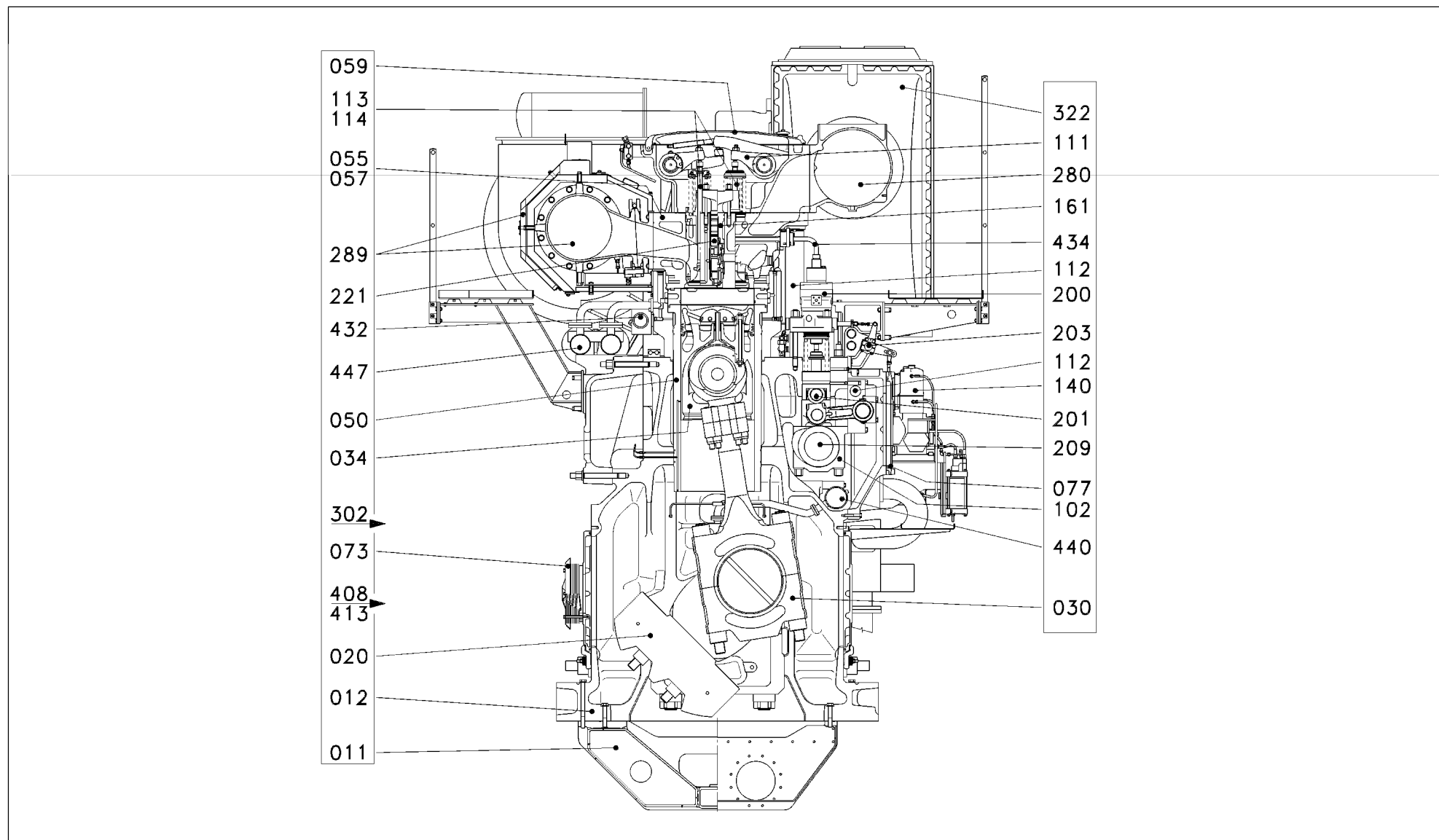
Figure 2. Identity card for service parts

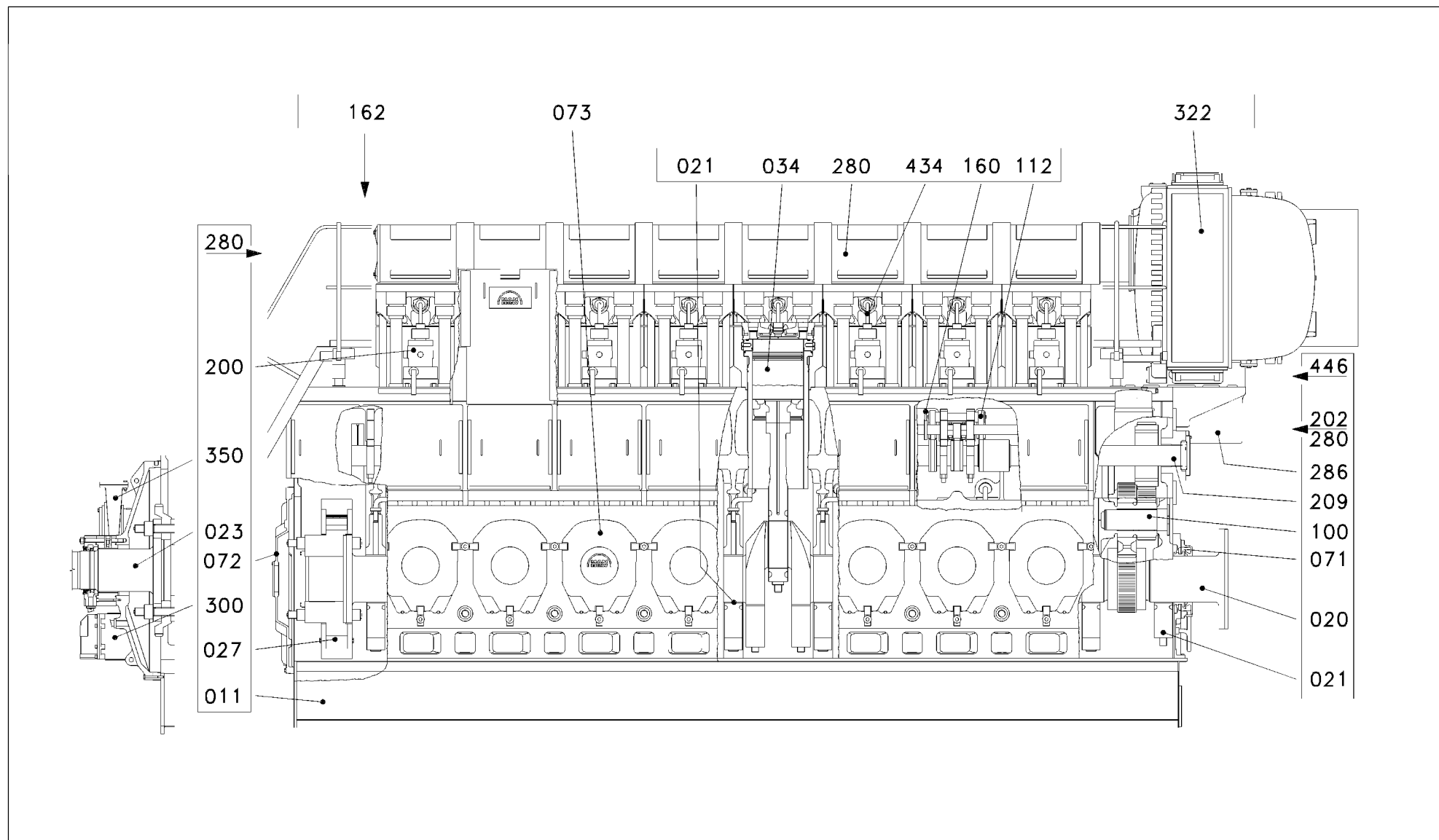
The identity card permits to draw conclusions on the underlying order, and contains, among other things, the order number and the designation of the part.




# List of Assemblies

- 1 Introduction
- 2 List of Assemblies
- 3 Spare Parts (Engine)









	<b>D</b>	<b>GB</b>	<b>F</b>	<b>E</b>
(011)	Ölwanne	Oil sump	Carter à huile	Cárter de aceite
012	Zylinderkurbelgehäuse	Cylinder crankcase	Carter du vilebrequin	Cárter del cigüeñal
020	Kurbelwelle	Crankshaft	Vilebrequin	Cigüeñal
021	Kurbelwellenlager	Main bearing	Palier du vilebrequin	Cojinete del cigüeñal
(023)	Kurbelwellenverlängerung	Crankshaft extension	Prolongement du vilebrequin	Prolongación del cigüeñal
027	Schwingungsdämpfer	Vibration damper	Amortisseur de vibrations	Amortiguador de vibraciones
030	Pleuelstange	Connecting rod	Bielle	Biela
034	Kolben	Piston	Piston	Émbolo
050	Zylinderbuchse	Cylinder liner	Chemise de cylindre	Camisa de cilindro
055	Zylinderkopf	Cylinder head	Culasse de cylindre	Culata
057 *	Sicherheitsventil am Zylinderkopf	Safety valve on cylinder head	Soupape de sécurité dans la culasse de cylindre	Válvula de seguridad en la culata
059	Zylinderkopfhaube	Cylinder head cover	Chape de culasse de cylindre	Tapa de culata
071	Verschaltung auf Kupplungsseite	Covering on coupling end	Revêtement du côté d'accouplement	Revestimiento al lado del acoplamiento
072	Verschaltung auf Kupplungsgegenseite	Covering on free end of engine	Revêtement du côté opposé à l'accouplement	Revestimiento al lado opuesto del acoplamiento
073	Verschaltungen, Kurbelraumverschaltungen mit Entlastungsventil	Coverings, coverings of crankcase with relief valve	Revêtements, revêtements du carter avec soupape de décharge	Revestimientos, revestimientos del cárter con válvula de descarga
077	Verschaltung der Nockenwelle	Covering of camshaft	Revêtement d'arbre à cames	Revestimiento del árbol de levas
100	Steuerungsantrieb	Camshaft drive	Commande de la distribution	Accionamiento por ruedas dentadas
102	Nockenwellenlager	Camshaft bearing	Palier d'arbre à cames	Cojinete del árbol de levas
111	Kipphebel mit Lagerung	Rocker arm with bearings	Culbuteur avec logement	Balancín con cojinete
112	Ein- und Auslaßschwinghebel mit Stoßstange	Inlet and exhaust cam follower with push-rod	Basculeur d'admission et d'échappement avec tige de culbuteur	Seguidores de leva de admisión y escape con varilla de empuje



	D	GB	F	E
113	Einlaßventil	Inlet valve	Soupape d'admission	Válvula de admisión
114	Auslaßventil	Exhaust valve	Soupape d'échappement	Válvula de escape
125 *	Bedienungseinrichtung	Operating device	Poste de commande	Dispositivo de manejo
140	Drehzahlregler mit Antrieb	Speed governor with drive	Régulateur de vitesse avec commande	Regulador de revoluciones con accionamiento
160	Anlaßsteuerschieber	Starting air pilot valve	Vanne d'asservissement de lancement	Distribuidor de arranque
161	Anlaßventil	Starting valve	Soupape de lancement	Válvula de arranque
162 *	Hauptanlaßventil	Main starting valve	Soupape de lancement principale	Válvula de arranque principal
200	Kraftstoffeinspritzpumpe	Fuel injection pump	Pompe d'injection de combustible	Bomba de inyección de combustible
201	Kraftstoffeinspritzpumpenantrieb	Drive of the fuel injection pump	Commande d'injection de carburant	Accionamiento de la bomba de inyección de combustible
(202) *	Einspritzzeitpunktverstellung	Injection time adjusting device	Réglage de l'avance à l'injection	Regulación del momento de inyección
203	Regelgestänge	Control linkage	Tringlerie de régulateur	Varillaje de regulación
209	Nockenwelle mit Nocken	Camshaft with cams	Arbre à cames avec cames	Árbol de levas con levas
221	Kraftstoffeinspritzventil	Fuel injection valve	Soupape d'injection de combustible	Válvula de inyección de combustible
280	Ladeluftleitung	Charge air pipe	Conduite d'air de suralimentation	Tubería de aire de sobrealimentación
(280) *	Luftumblaseleitung	Air bypass pipe	Tuyauterie de dérivation d'air	Tubería de derivación de aire
280 *	Druckmeßumformer mit Anbau	Pressure transducer with attachment	Convertisseur de mesure de pression avec montage	Convertidor de medición de presión con montaje

	D	GB	F	E
286 *	Abgasturboladeranbau	Mounting exhaust gas turbocharger	Montage turbocompresseur	Montaje turbosobrealimentador
289	Abgasleitung	Exhaust pipe	Tuyauterie d'échappement	Tubería de escape
289	Verschalung der Abgasleitung	Covering of the exhaust gas pipe	Revêtement du tuyauterie d'échappement	Revestimiento de la tubería de gas de escape
(300)	Schmierölpumpe	Lube oil pump	Pompe à huile de graissage	Bomba de lubricación
302 *	Schmierölpumpe für Zylinderschmierung	Lube oil pump for cylinder lubrication	Pompe à huile de graissage pour lubrification du cylindre	Bomba de lubricación para la lubrificación de cilindros
302 *	Schmierölpumpe für Ventilsitzschmierung	Lube oil pump for valve seat lubrication	Pompe à huile de graissage pour le graissage des sièges de soupapes	Bomba de lubricante para lubricar asientos de válvulas
311 *	Kurbelraumventilierung	Crankcase venting	Ventilation du carter du vilebrequin	Ventilación del cárter del cigüeñal
322	Ladeluftkühler	Charge air cooler	Réfrigérant d'air de suralimentation	Refrigerador del aire de sobrealimentación
(350)	Kühlwasserpumpe	Cooling water pump	Pompe à eau de refroidissement	Bomba de agua de refrigeración
400 *	Impulsgeber	Pulse pick-up	Emetteur d'impulsions	Generador de impulsos
400 *	Impulsaufnehmer	Pulse pick-up	Capteur d'impulsions	Receptor de impulsos
(408) *	Grundlagertemperaturüberwachung	Temperature monitoring of main bearing	Surveillance de température du palier principal	Control de la temperatura del cojinete principal
408 *	Anbauteile zum Triebraumdeckel für Splash-Oil	Fitting parts to crankcase cover for splash-oil	Pièces pour couvercle de carter pour système Splash-oil	Piezas de montaje para tapa del cárter con sistema Splash-oil
413 *	Verkabelung am Motor für Splash-Oil-Temperaturüberwachung	Cabling on engine for splash-oil temperature monitoring	Cablage électrique sur le moteur pour système Splash-oil	Cableado en el motor para sistema Splash-oil
413 *	Ölnebel detector	Oil mist detector	Détecteur de brouillard d'huile	Detector de neblina de aceite
419 *	Indiziereinrichtung	Indicating device	Dispositif indicateur	Dispositivo indicador
430 *	Rohrleitungen, allgemein	Pipes, general	Tuyauteries, général	Tuberías, general



	D	GB	F	E
432	Anlaßluftleitung	Starting air pipe	Tuyauterie d'air de lancement	Tubería de aire de arranque
434	Kraftstoffeinspritzleitung	Fuel injection pipe	Tuyauterie d'injection de combustible	Tubería de inyección de combustible
434 *	Kraftstoffleitung	Fuel pipe	Tuyauterie de combustible	Tubería de combustible
440	Schmierölleitung	Lubricating oil pipe	Tuyauterie d'huile de graissage	Tubería de aceite lubricante
442 *	Kondenswasserablauf	Condensed water discharge	Décharge d'eau de condensation	Descarga del agua de condensación
443 *	Zylinderschmierung	Cylinder lubrication	Lubrification des cylindres	Lubrificación de cilindros
443 *	Ventilsitzschmierung	Valve seat lubrication	Graissage de siège de soupape	Lubrificación del asiento de válvula
446 *	Rohrleitungen zum Turbolader	Pipes to the turbocharger	Tuyauteries pour le turbocompresseur	Tuberías al turbosobrealimentador
447 *	Kühlwasserleitungen	Cooling water pipes	Tuyauteries d'eau de refroidissement	Tuberías de agua de refrigeración
*	<p>Diese Baugruppen sind in den Bildern nicht sichtbar These assemblies are not shown in the figures Ces sous-groupes ne sont pas illustrés sur les figures Estos grupos constructivos no están visibles en las figuras</p>			
(...)	<p>falls vorhanden if provided s'il existe si existe</p>			

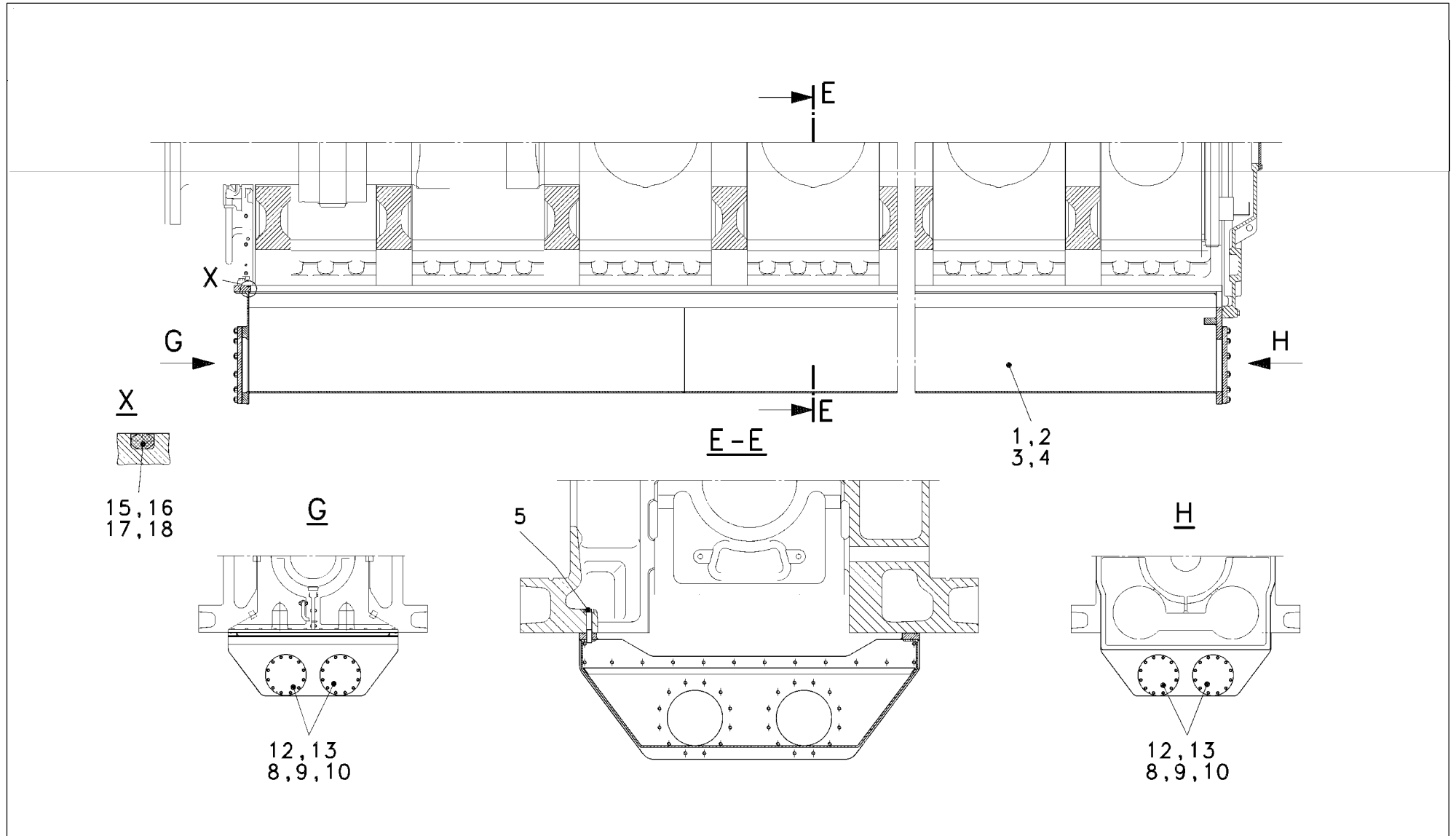
# Spare Parts (Engine)
















- 1 Introduction
- 2 List of Assemblies
- 3 Spare Parts (Engine)



Ölwanne  
Oil sump  
Carter à huile  
Cárter de aceite

011.03

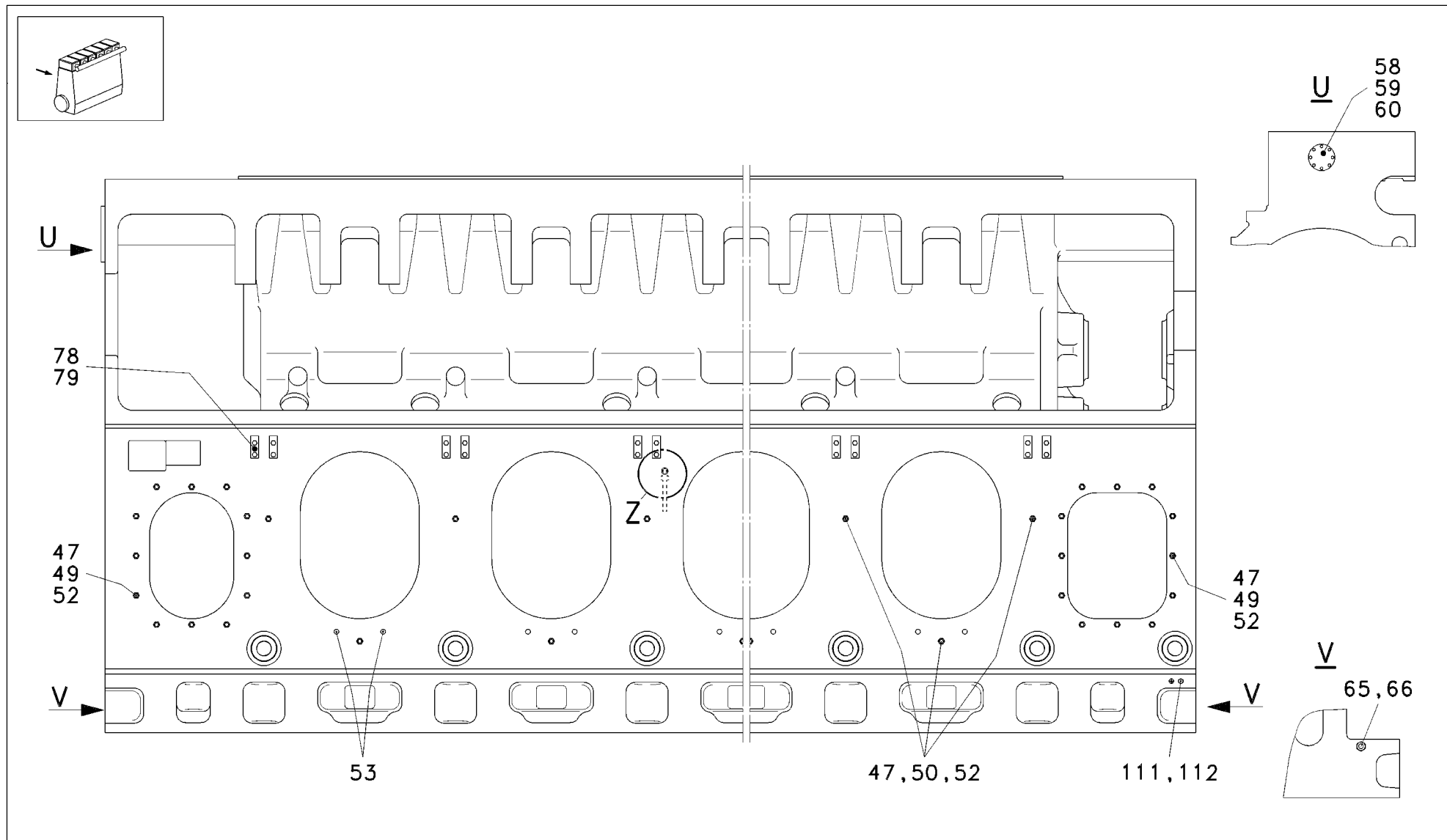


															
			D		GB		F		E						
001	011.03.001	Ölwanne für 6-Zyl.-Motor	Oil sump for 6 cylinder engine	Oil sump for 6 cylinder engine	Carter à huile pour moteur à 6 cylindres	Cárter de aceite para motor de 6 cilindros									
002	011.03.002	Ölwanne für 7-Zyl.-Motor	Oil sump for 7 cylinder engine	Oil sump for 7 cylinder engine	Carter à huile pour moteur à 7 cylindres	Cárter de aceite para motor de 7 cilindros									
003	011.03.003	Ölwanne für 8-Zyl.-Motor	Oil sump for 8 cylinder engine	Oil sump for 8 cylinder engine	Carter à huile pour moteur à 8 cylindres	Cárter de aceite para motor de 8 cilindros									
004	011.03.004	Ölwanne für 9-Zyl.-Motor	Oil sump for 9 cylinder engine	Oil sump for 9 cylinder engine	Carter à huile pour moteur à 9 cylindres	Cárter de aceite para motor de 9 cilindros									
005	011.03.005	Sechskantschraube	Hexagon bolt	Hexagon bolt	Boulon à tête hexagonale	Tornillo de cabeza hexagonal									
008	011.03.008	Stiftschraube	Stud	Stud	Goujon	Espárrago									
009	011.03.009	Sechskantmutter	Hexagon nut	Hexagon nut	Ecrou hexagonal	Tuerca hexagonal									
010	987.01.203	Loctite 243	Loctite 243	Loctite 243	Loctite 243	Loctite 243									
012	011.03.012	Flansch	Flange	Flange	Bride	Brida									
013	011.03.013	Dichtung	Seal	Seal	Joint	Junta									
015	011.03.015	Dichtung für 6-Zyl.-Motor	Seal for 6-cyl. engine	Seal for 6-cyl. engine	Joint pour moteur à 6 cyl.	Junta para motor de 6 cil.									
016	011.03.016	Dichtung für 7-Zyl.-Motor	Seal for 7-cyl. engine	Seal for 7-cyl. engine	Joint pour moteur à 7 cyl.	Junta para motor de 7 cil.									
017	011.03.017	Dichtung für 8-Zyl.-Motor	Seal for 8-cyl. engine	Seal for 8-cyl. engine	Joint pour moteur à 8 cyl.	Junta para motor de 8 cil.									
018	011.03.018	Dichtung für 9-Zyl.-Motor	Seal for 9-cyl. engine	Seal for 9-cyl. engine	Joint pour moteur à 9 cyl.	Junta para motor de 9 cil.									



Zylinderkurbelgehäuse  
Cylinder crankcase  
Carter du vilebrequin  
Cárter del cigüeñal







012.04















Zylinderkurbelgehäuse  
Cylinder crankcase  
Carter du vilebrequin  
Cárter del cigüeñal

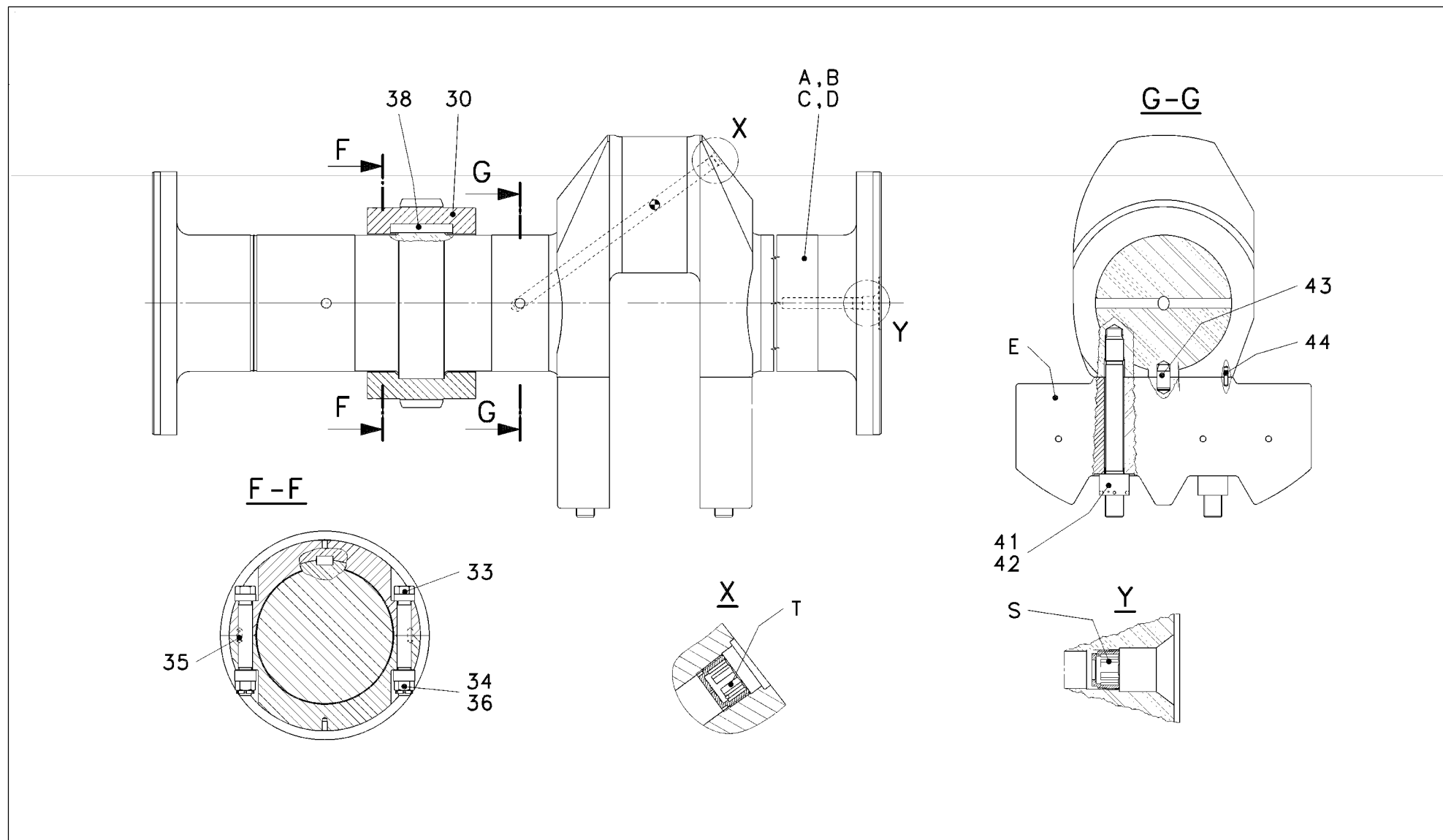
012.04









							
001	012.04.001			Zylinderkurbelgehäuse komplett, für 6-Zyl.-Motor mit Pos. 15 bis 25, 34 bis 37	Cylinder crankcase, complete for 6 cylinder engine with items 15 to 25, 34 to 37	Carter du vilebrequin, compl. pour moteur à 6 cylindres avec rep. 15 à 25, 34 à 37	Cárter compl., para motor de 6 cilindros con pos. 15 a 25, 34 a 37
002	012.04.002			Zylinderkurbelgehäuse komplett, für 7-Zyl.-Motor mit Pos. 15 bis 25, 34 bis 37	Cylinder crankcase, complete for 7 cylinder engine with items 15 to 25, 34 to 37	Carter du vilebrequin, compl. pour moteur à 7 cylindres avec rep. 15 à 25, 34 à 37	Cárter compl., para motor de 7 cilindros con pos. 15 a 25, 34 a 37
003	012.04.003			Zylinderkurbelgehäuse komplett, für 8-Zyl.-Motor mit Pos. 15 bis 25, 34 bis 37	Cylinder crankcase, complete for 8 cylinder engine with items 15 to 25, 34 to 37	Carter du vilebrequin, compl. pour moteur à 8 cylindres avec rep. 15 à 25, 34 à 37	Cárter compl., para motor de 8 cilindros con pos. 15 a 25, 34 a 37
004	012.04.004			Zylinderkurbelgehäuse komplett, für 9-Zyl.-Motor mit Pos. 15 bis 25, 34 bis 37	Cylinder crankcase, complete for 9 cylinder engine with items 15 to 25, 34 to 37	Carter du vilebrequin, compl. pour moteur à 9 cylindres avec rep. 15 à 25, 34 à 37	Cárter compl., para motor de 9 cilindros con pos. 15 a 25, 34 a 37
015	012.04.015			Lagerdeckel	Bearing cap	Chapeau de palier	Tapa del cojinete
017	012.04.017			Lagerdeckel	Bearing cap	Chapeau de palier	Tapa del cojinete
019	012.04.019			Zuganker	Tie rod	Tirant	Tirante
020	012.04.020			Mutter	Nut	Ecrou	Tuerca
021	012.04.021			Mutter	Nut	Ecrou	Tuerca
023	012.04.023			Lagerdeckel	Bearing cap	Chapeau de palier	Tapa del cojinete
025	012.04.025			Zuganker	Tie rod	Tirant	Tirante
027	012.04.027			Zuganker	Tie rod	Tirant	Tirante
029	012.04.029			Runddichtring	O-ring seal	Joint torique d'étanchéité	Junta tórica
030	012.04.030			Runddichtring	O-ring seal	Joint torique d'étanchéité	Junta tórica
031	012.04.031			Ring	Ring	Bague	Anillo
032	012.04.032			Mutter	Nut	Ecrou	Tuerca
034	012.04.034			Stiftschraube	Stud	Goujon	Espárrago
035	012.04.035			Ring	Ring	Bague	Anillo
036	012.04.036			Runddichtring	O-ring seal	Joint torique d'étanchéité	Junta tórica

							
037	012.04.037	Mutter	Nut	Ecrou	Tuerca		
040	012.04.040	Stiftschraube	Stud	Goujon	Espárrago		
041	012.04.041	Sechskantmutter	Hexagon nut	Ecrou hexagonal	Tuerca hexagonal		
043	012.04.043	Abdrückschraube	Forcing-off bolt	Boulon à chasser	Tornillo de apriete		
044	012.04.044	Verschlußstopfen	Sealing plug	Bouchon de fermeture	Tapón		
046	012.04.046	Fixierhülse	Fixation sleeve	Douille de fixation	Manguito de fijación		
047	987.01.206	Loctite 270	Loctite 270	Loctite 270	Loctite 270		
049	012.04.049	Stiftschraube	Stud	Goujon	Espárrago		
050	012.04.050	Stiftschraube	Stud	Goujon	Espárrago		
051	012.04.051	Stiftschraube	Stud	Goujon	Espárrago		
052	012.04.052	Sechskantmutter	Hexagon nut	Ecrou hexagonal	Tuerca hexagonal		
053	012.04.053	Spannstift	Spring pin	Goupille de serrage	Pasador de sujeción		
055	012.04.055	Deckel	Cover	Couvercle	Tapa		
056	012.04.056	Dichtung	Seal	Joint	Junta		
058	012.04.058	Flansch	Flange	Bride	Brida		
059	012.04.059	Sechskantschraube	Hexagon bolt	Boulon à tête hexagonale	Tornillo de cabeza hexagonal		
060	987.01.102	Hylomar SQ/M	Hylomar SQ/M	Hylomar SQ/M	Hylomar SQ/M		
065	012.04.065	Verschraubung	Screwed connection	Raccord	Racor		
066	012.04.066	Dichtring	Sealing ring	Anneau-joint	Anillo-junta		
070	012.04.070	Schutzkappe	Protecting cap	Capuchon de protection	Caperuza protectora		
071	012.04.071	Scheibe	Washer	Rondelle	Arandela		
072	012.04.072	Sechskantschraube	Hexagon bolt	Boulon à tête hexagonale	Tornillo de cabeza hexagonal		
074	012.04.074	Schutzhaube	Proteccion cap	Chapeau protection	Capuchón protector		
075	012.04.075	Schutzkappe	Protecting cap	Capuchon de protection	Caperuza protectora		

					
078	012.04.078	Klotz	Block	Bloc	Bloque
079	012.04.079	Sechskantschraube	Hexagon bolt	Boulon à tête hexagonale	Tornillo de cabeza hexagonal
082	012.04.082	Verschraubung	Screwed connection	Raccord	Racor
083	012.04.083	Rohr	Pipe	Tuyau	Tube
089	012.04.089	Kupplung mit Außengewinde	Coupling with external thread	Connecteur avec filet extérieur	Acoplamiento con rosca exterior
090	987.01.209	Loctite 572	Loctite 572	Loctite 572	Loctite 572
091	012.04.091	Schlauch-Stecknippel	Hose plug-in nipple	Nipple enfichable de tuyau flexible	Boquilla enchufable de tubo flexible
093	012.04.093	Leiste	Ledge	Listeau	Listón
094	012.04.094	Leiste für 7-Zyl.-Motor	Ledge for 7 cylinder engine	Listeau pour moteur à 7 cylindres	Listón para motor de 7 cilindros
095	012.04.095	Leiste für 9-Zyl.-Motor	Ledge for 9 cylinder engine	Listeau pour moteur à 9 cylindres	Listón para motor de 9 cilindros
096	012.04.096	Leiste für 6-Zyl.-Motor	Ledge for 6 cylinder engine	Listeau pour moteur à 6 cylindres	Listón para motor de 6 cilindros
097	012.04.097	Leiste für 8-Zyl.-Motor	Ledge for 8 cylinder engine	Listeau pour moteur à 8 cylindres	Listón para motor de 8 cilindros
098	012.04.098	Leiste	Ledge	Listeau	Listón
099	012.04.099	Leiste	Ledge	Listeau	Listón
100	012.04.100	Zylinderschraube	Cylindrical screw	Vis à tête cylindrique	Tornillo de cabeza cilíndrica
102	987.01.002	Dirko grau	Dirko grey	Dirko gris	Dirko gris
105	012.04.105	Verschlussschraube	Screw plug	Bouchon fileté	Tapón roscado
106	012.04.106	Dichtring	Sealing ring	Anneau-joint	Anillo-junta
111	012.04.111	Sechskantschraube	Hexagon bolt	Boulon à tête hexagonale	Tornillo de cabeza hexagonal
112	012.04.112	Sicherungsscheibenpaar	Lock washer pair	Paire de rondelles d'arrêt	Par de arandelas de seguridad





						
A	020.01.A	Kurbelwelle für 6-Zyl.-Motor	Crankshaft for 6 cylinder engine	Vilebrequin pour moteur à 6 cylindres	Cigüeñal para motor de 6 cilindros	
B	020.01.B	Kurbelwelle für 7-Zyl.-Motor	Crankshaft for 7 cylinder engine	Vilebrequin pour moteur à 7 cylindres	Cigüeñal para motor de 7 cilindros	
C	020.01.C	Kurbelwelle für 8-Zyl.-Motor	Crankshaft for 8 cylinder engine	Vilebrequin pour moteur à 8 cylindres	Cigüeñal para motor de 8 cilindros	
D	020.01.D	Kurbelwelle für 9-Zyl.-Motor	Crankshaft for 9 cylinder engine	Vilebrequin pour moteur à 9 cylindres	Cigüeñal para motor de 9 cilindros	
030	020.01.030	Zahnrad, zweiteilig mit Pos. 33 bis 35	Gearwheel, two-part, with items 33 to 35	Roue dentée, en 2 pièces avec rep. 33 à 35	Rueda dentada, bisectada con pos. 33 a 35	
033	020.01.033	Schraube	Bolt	Vis	Tornillo	
034	020.01.034	Kronenmutter	Castellated nut	Ecrou crénelé	Tuerca almenada	
035	020.01.035	Zylinderstift	Parallel pin	Goupille cylindrique	Pasador cilíndrico	
036	020.01.036	Splint	Split pin	Goupille cylindrique fendue	Pasador abierto	
038	020.01.038	Paßfeder	Feather key	Clavette	Chaveta de ajuste	
E	020.01.E	Gegengewicht	Balance weight	Masse d'équilibrage	Contrapeso	
041	020.01.041	Stiftschraube	Stud	Goujon	Espárrago	
042	020.01.042	Mutter	Nut	Ecrou	Tuerca	
043	020.01.043	Bolzen	Bolt	Boulon	Perno	
044	020.01.044	Spannstift	Spring pin	Goupille de serrage	Pasador de sujeción	
T	020.01.T	Verschlussschraube	Screw plug	Bouchon fileté	Tapón roscado	
S	020.01.S	Verschlussschraube	Screw plug	Bouchon fileté	Tapón roscado	