

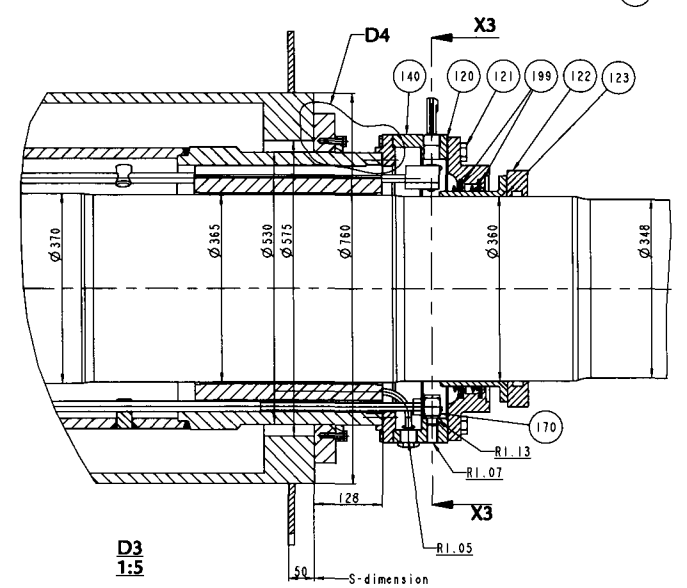
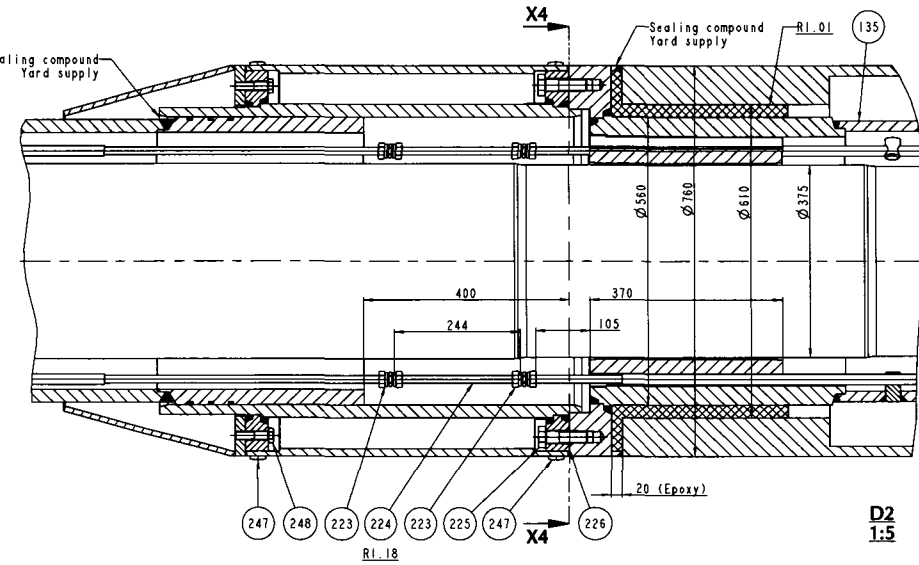
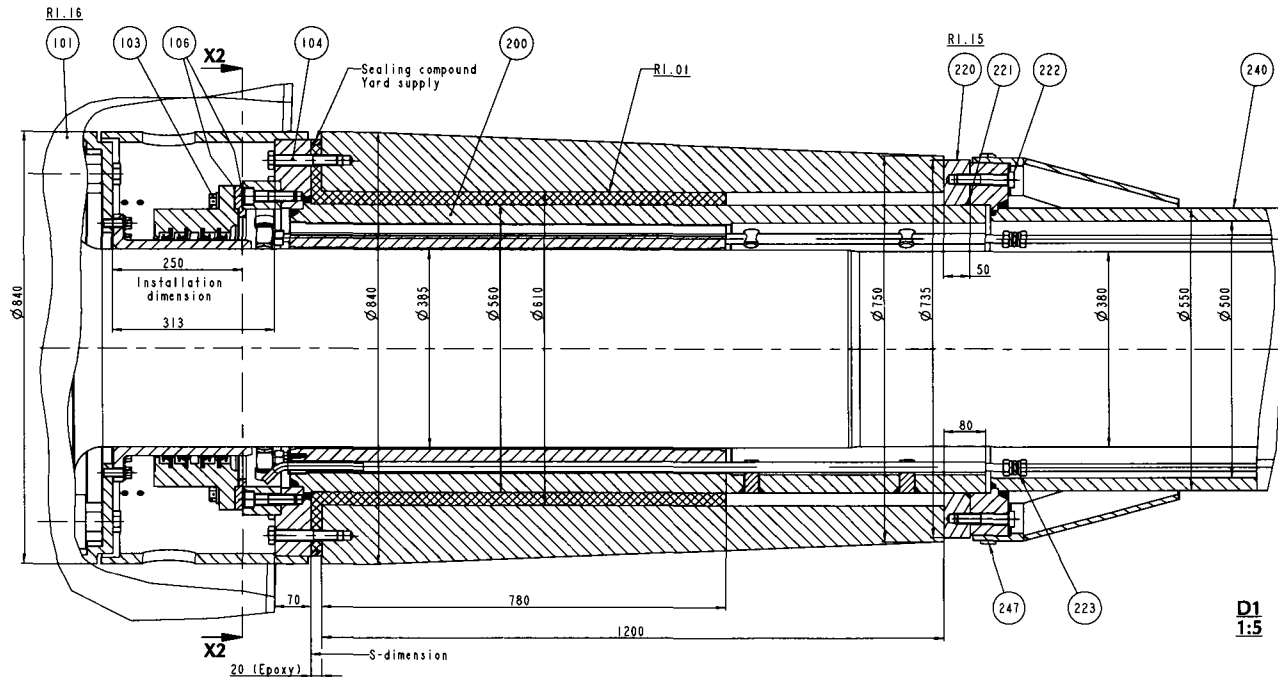
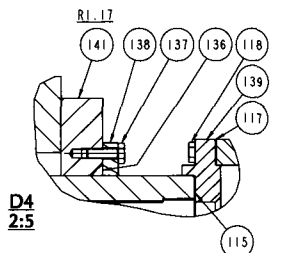
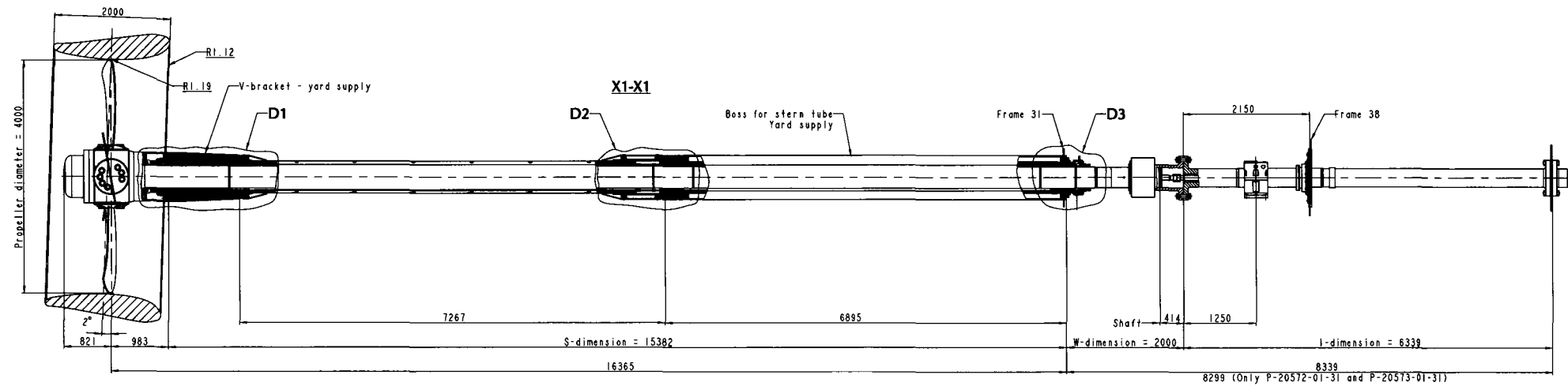


PLATE NO 3 1005-20572		PROD IDENT VBS1080ODG	STERNTUBE, COUPLING FLANGE, INTERNAL SEAL	
ITEM NO	PART DESCRIPTION			WEIGHT KILOS
283	GASKET			
284	SCREW FOR STUFFING BOX			

PLATE NO		PROD IDENT	STERNTUBE, COUPLING FLANGE, INTERNAL SEAL	
3 1005-20572		VBS1080ODG		
ITEM NO	PART DESCRIPTION			WEIGHT KILOS
153	THERMOMETER HOUSING			
154	THERMOMETER POCKET W. SCREW			
160	COUPLING FLANGE			
162	FITTED BOLT			
163	NUT			
165	HEXAGON SOCKET CAP SCREW W. NYLON LOCK			
166	SEALING RING			
170	BANJO COUPLING			
181	WASHERS			
200	BEARING BUSH – COMPLETE			
201	BEARING BUSH			
202	STERN TUBE BEARING			
203	HOLLOW P. SCREW			
204	ADAPTER FLANGE FOR SHAFT SEAL			
205	HEXAGON SOCKET CAP SCREW W. NYLON LOCK			
206	BANJO COUPLING			
207	PIPE SUPPORT			
208	CYL. SCREWS			
220	WELDING FLANGE			
221	SEALING RING			
222	HEXAGON BOLT WITH NYLON LOCK			
223	STRAIGHT COUPLING			
224	PRECISION STEEL PIPE			
225	HEXAGON BOLT WITH NYLON LOCK			
226	GASKET			
227	HEXAGON SOCKET CAP SCREW W. NYLON LOCK			
240	COVER/TELESCOPIC PIPE, COMPLETE			
241	COVER PIPE, COMPLETE			
243	SEALING RING			
244	TELESCOPIC PIPE, COMPLETE			
245	CONICAL GUARD			
247	HEXAGON SCREW WITH NYLON LOCK			
248	HEXAGON BOLT WITH NYLON LOCK			
260	STRAIGHT COUPLING			
261	PRECISION STEEL PIPE			
262	CABLE PIPE			
270	STRAIGHT COUPLING			
271	PRECISION STEEL PIPE			
280	SEALING RING			
281	STUFFING BOX			
282	GASKET			



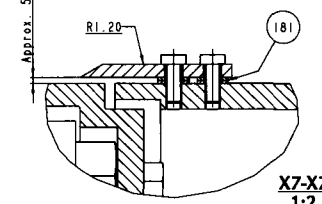
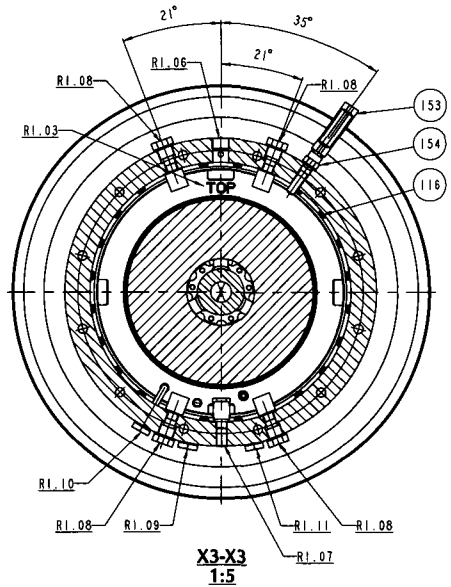
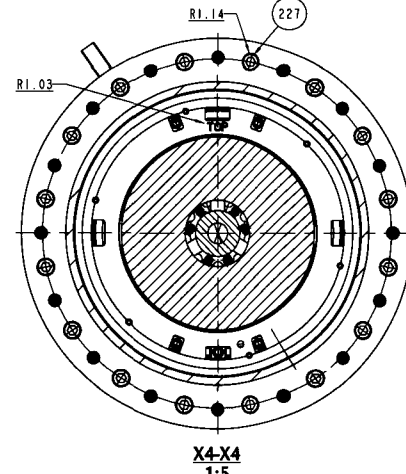
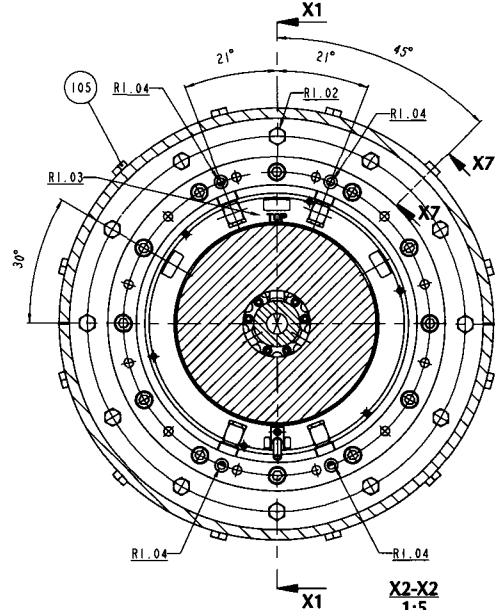
PLATE NO		PROD IDENT	STERNTUBE, COUPLING FLANGE, INTERNAL SEAL	
3 1005-20572		VBS1080ODG		
ITEM NO	PART DESCRIPTION			WEIGHT KILOS
1	LOCKRING			
2	HEX. SOCKET CAP SCREW W NYLON LOCK			
3	PLUG SCREW			
4	NUT FOR COUPLINGFLANGE			
5	SLIDE RING			
6	COUPLING MUFF			
7	SEALING RING			
7A	CABLE PIPE			
7B	CABLE PIPE			
7C	CABLE PIPE			
9	COUPLING FLANGE			
10	PLUG SCREW			
11	SEALING FLANGE			
12	O-RING			
13	HOLLOW P. SCREW			
14	SIGN FOR HYDRAULIC COUPLING FLANGE			
15	SEALING RING			
16	PLUG SCREW, BLANKING END			
102	GUARD			
104	HEXAGON BOLT WITH NYLON LOCK			
105	HEXAGON SCREW WITH NYLON LOCK			
110	HOLLOW P. SCREW			
111	STERN TUBE BEARING			
112	STERN TUBE BEARING			
113	HOLLOW P. SCREW			
115	GASKET			
116	CYL. SCREW			
117	GASKET			
118	HEXAGON SCREW			
122	STERN TUBE SEAL			
135	STERN TUBE, COMPLETE			
135A	STERN TUBE			
136	SEALING RING			
137	HEXAGON SCREW			
138	SEALING FLANGE			
139	ADAPTER FLANGE			
140	OIL BOX			
141	ALIGNMENT RING			
150	PRESSURIZES OIL TANK FOR STERN TUBE			
150A	PRESSURE SETTING PANEL			
152	PUMP UNIT FOR SHAFT SEAL			



Tightening torque, molykote lubricated

Item 103:	See manual for seal
Item 104:	130 Nm
Item 105:	130 Nm
Item 116:	25 Nm
Item 118:	25 Nm
Item 121:	130 Nm
Item 222:	130 Nm
Item 225:	130 Nm
Item 247:	130 Nm
Item 248:	130 Nm

See also drawing No 2036393-1




When ordering spare parts refer to:
Plate No 3 1005-20572 + item No
For item nos > 300 refer to:
Plate No 3 3505-20572 + item No

Direction of propeller rotation viewed from aft looking forward:
Starboard side: Clockwise rotation
Port side: Counter clockwise rotation

Hull number	P-number for port side propeller	P-number for starboard propeller
119	20572-01-31	20572-01-32
120	20573-01-31	20573-01-32
121	20574-01-31	20574-01-32
122	20575-01-31	20575-01-32
123	20576-01-31	20576-01-32
124	20577-01-31	20577-01-32
125	20578-01-31	20578-01-32
126	20579-01-31	20579-01-32
127	20662-01-31	20662-01-32
128	20663-01-31	20663-01-32

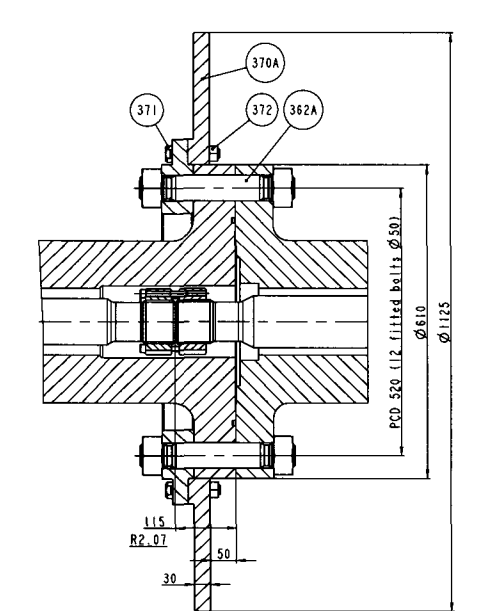
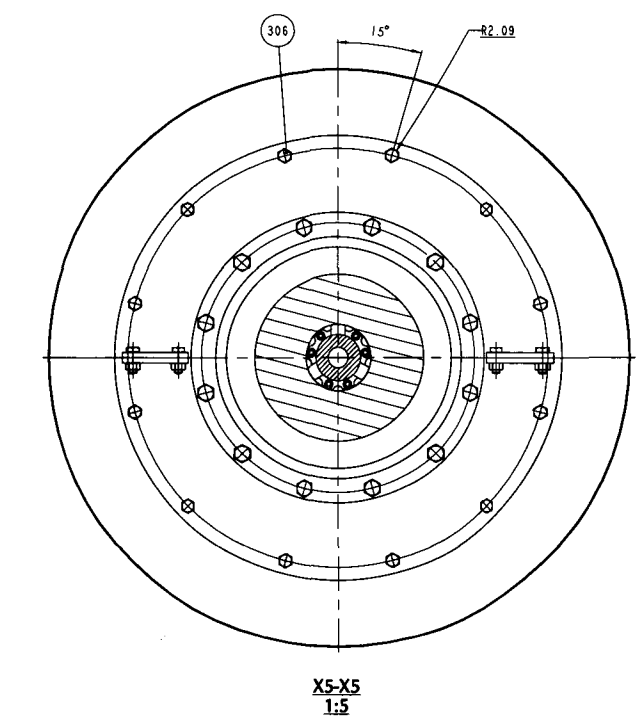
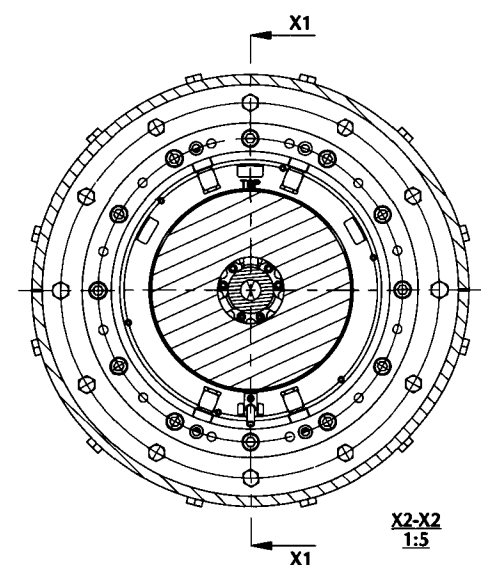
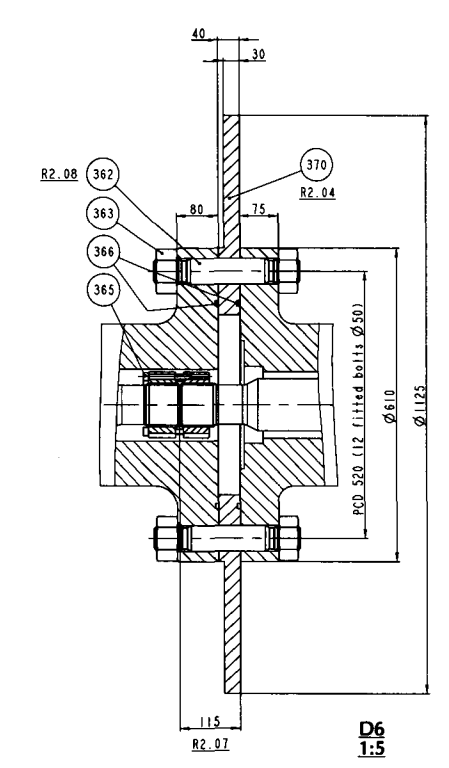
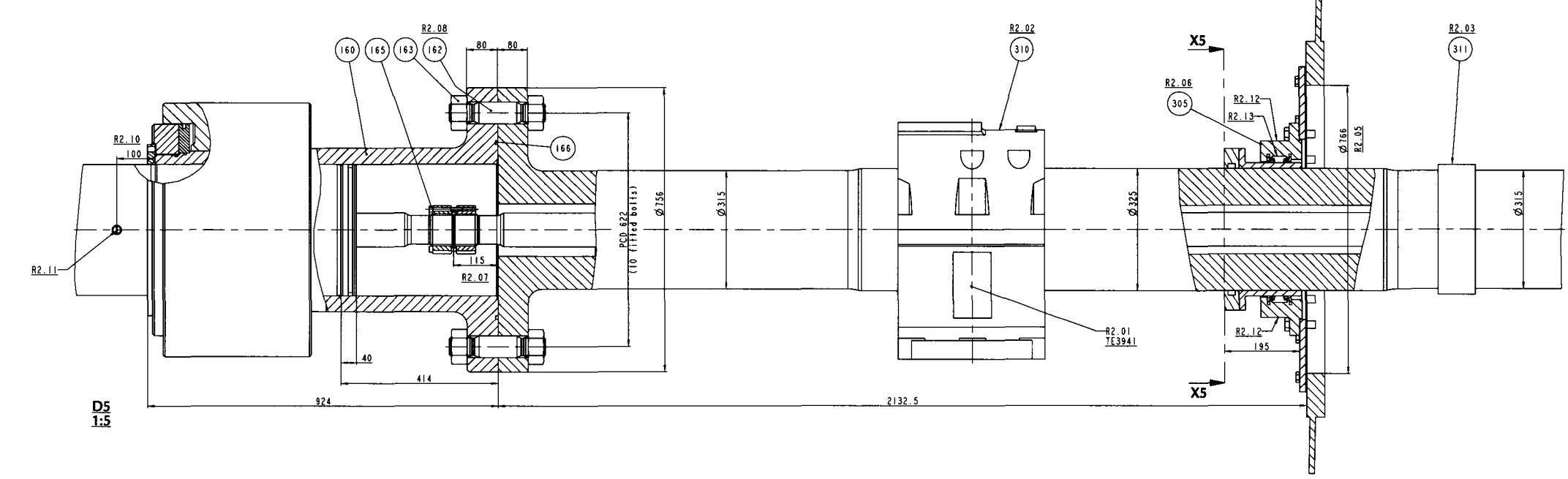
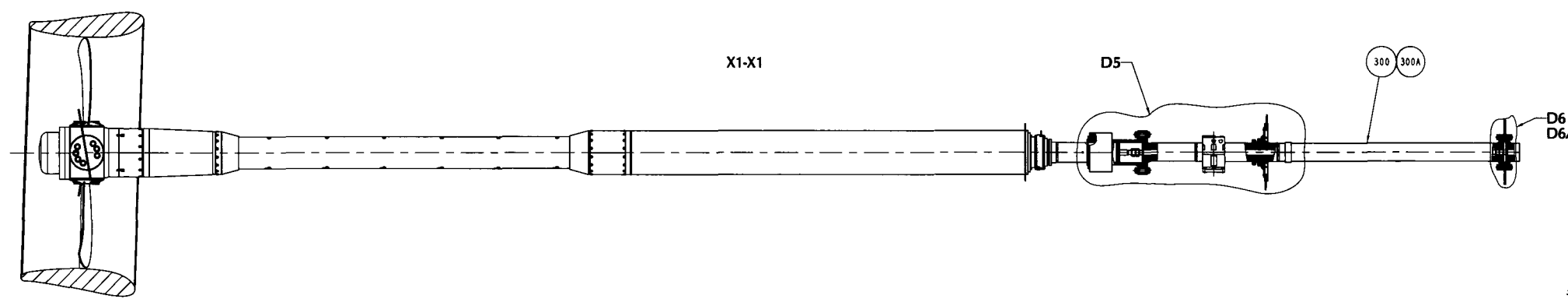
Yard	Aker Yards, Norway
Type of vessel	AHTS
Engine type / Output MCR	2 x 7+8L27/38 / 2380 + 2720 kW
Engine / Propeller rpm	800 / 145
Classification	Det Norske Veritas, No ice class, TMON

RI.20	Net cutter. 4 sets of net cutters and screws are supplied together with the aft stern tube seal. Refer to DSS drawing No. RI.184.
RI.19	Pivot point for nozzle.
RI.18	The length of the pipe is to be adapted by the yard.
RI.17	The alignment flange, item 141, is to be welded to the boss after alignment of the stern tube, item 135.
RI.16	Refer to plate 3 1505
RI.15	The flange, item 220, is to be welded to the boss after alignment of the bearing bush, item 200.
RI.14	16 x M20 x 50 - PCD 680. To be made in the boss for the stern tube by the yard for the screws, item 227.
RI.13	The threaded connection in the oil box (item 140) is to be sealed with Loctite 572.
RI.12	Fixed nozzle. Refer to drawing Nos. 2065900-8 and 2120103-5
RI.11	Connection for temperature sensor TE3951 for the fwd bearing. See drawing number 2061871-0. Refer to plate 3 8418 for ordering of spare parts.
RI.10	Connection for temperature sensor TE3950 for the intermediate bearing. See drawing number 2122486-7. Refer to plate 3 8418 for ordering of spare parts.
RI.09	Connection for temperature sensor TE3952 for the aft bearing. See drawing number 2048189-8. Refer to plate 3 8418 for ordering of spare parts.
RI.08	Pipe connection for aft stern tube seal. Refer to page 3 and to the piping diagram for the DSS stern tube seals.
RI.07	Stern tube oil inlet connection, G1/2. From DSS circulation pump unit. Refer to piping diagram for the DSS stern tube seals.
RI.06	Stern tube oil, venting. Pipe connection G1.
RI.05	Stern tube drain connection, G1.
RI.04	Oil connections for aft stern tube seal.
RI.03	The bearing to be located with TOP marking as shown.
RI.02	12 x M20 x 55 - PCD 730. To be made in the boss by the yard for the screws, item 104.
RI.01	Epoxy - Yard supply
Remark	Description

Date	Des.	Chk.	A.C.	Revision change				Chg. No.	Rev.
2008.06.17	TMK	TMK		# Page 2: View DEA added.					07
2007.11.15	TMK	TMK		# Remark R2.13 added. Remarks R3.07 and R3.09 changed.					06
2007.09.19	TMK	TMK		# Page 3: Item No. 262 added.					05
2007.08.06	TMK	TMK		# Item No. 362: dia. ø48 -> ø50.					04
Basic Standards (MDSB):				Suppl. Drawing No.:					
EN21F-m Tolerances				EN21C Surf. roughness				Mesh (g):	
Material / Blank:				Final User Material:					
Scale:	Size:	Product Type:		Page No.:		Projection:		MAN Diesel	
1:35	AO	VBS1080/ODG350		1 of (3)					
Info. No.:	Item Name:		Propeller equipment				Item Id.:		
3P1001							2113514-5		
Final User Info. No.:							Final User Description:		
Final User Idet. No.:			Final User Idet. No.:						

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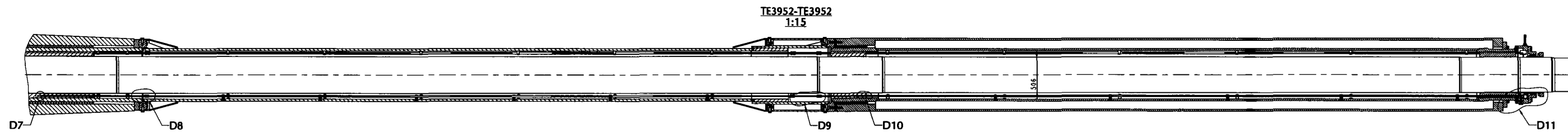


R2.13	Temperature sensor TE3973 for bulkhead seal. Supplied together with the bulkhead seal.
R2.12	Connections in top and bottom to be connected to 5 l oil tank supplied with the bulkhead seal. Please refer to documentation for the bulkhead seal.
R2.11	Reference mark on propeller shaft.
R2.10	Installation dimension for the coupling flange, item 160. Refer to Work Card 10 304-01 for installation instructions.
R2.09	12 x M16x30, PCD 815
R2.08	Threaded holes to be made in the bulkhead for the screws.
R2.07	The fitted bolts are supplied finish machined to match the holes in the flanges. When assembling the flanges ensure that the "O" marking on the flanges coincide.
R2.06	Control measure for propeller blades in neutral position.
R2.05	Bulkhead seal, water and gas tight. Refer to separate manual for installation instructions.
R2.04	Make: IHC Lagerstmit BV Type: Supreme 2/2 BHG2-355
R2.03	Bulkhead opening.
R2.02	Shaft earthing device, complete. Refer to separate manual for installation instructions.
R2.01	Journal bearing for intermediate shaft. Refer to separate manual for installation instructions.
R2.01	Connection for temperature sensor TE3941. The sensor is supplied with the bearing.
Remark	Description

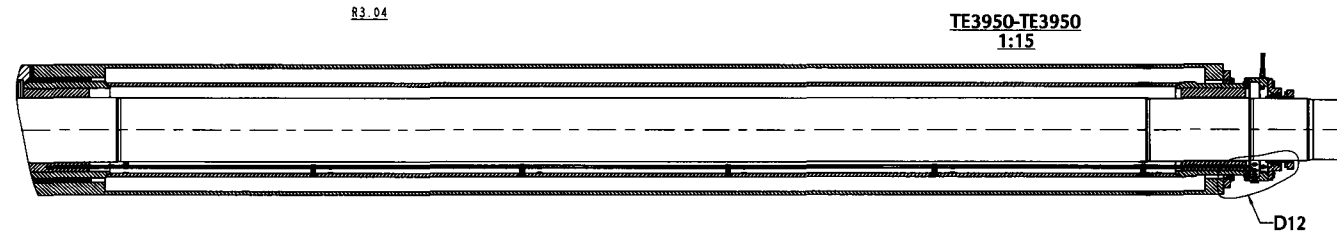
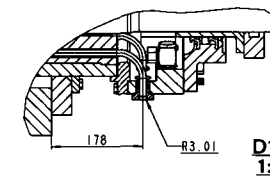
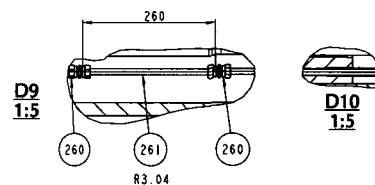
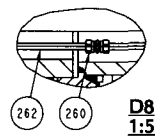
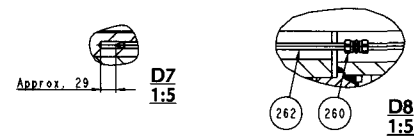
Tightening torque, molykote lubricated	
Item 163:	2940 Nm or 300 Nm + 24 mm
Item 165:	35 Nm
Item 306:	65 Nm
Item 363:	2260 Nm or 300 Nm + 22 mm
Item 365:	35 Nm
Item 372:	230 Nm
See also drawing No 2036393-1	

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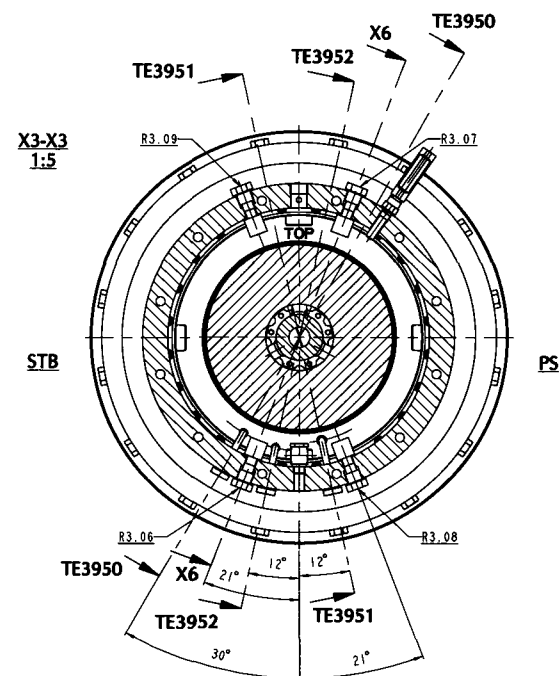
Date	Des.	Chk.	A.C.	Revision change	Ckg. Met.	Rev.
2008.06.17	TMK	TMK	#	Page 2: View D6A added		07
Scale:	Size:	Product Type:	Page No.:	Projection:	MAN Diesel	
1:35	AO	VBS1080/ODG350	2 of (3)			
Info. No.:	Item Name:	Propeller equipment				Item Id.:
3P1001						2113514-5
Final User Info. No.:	Final User Description:					Final User Ident. No.:



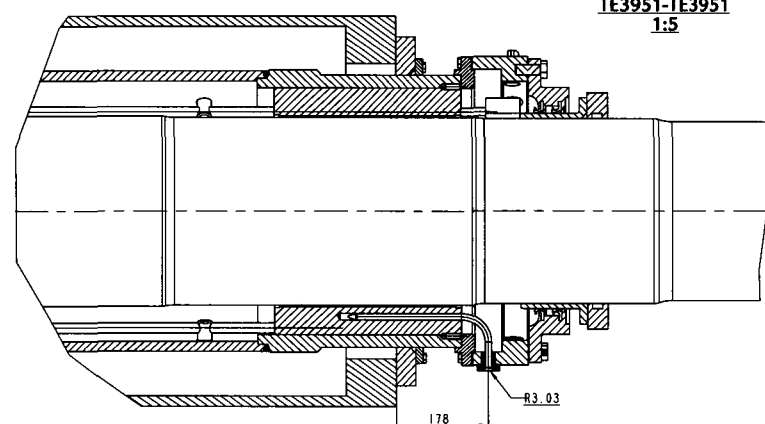
TE3952-TE3952
1:15



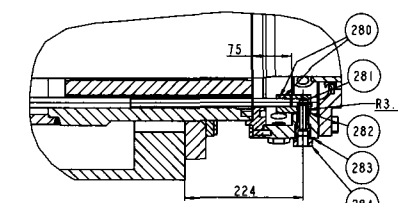
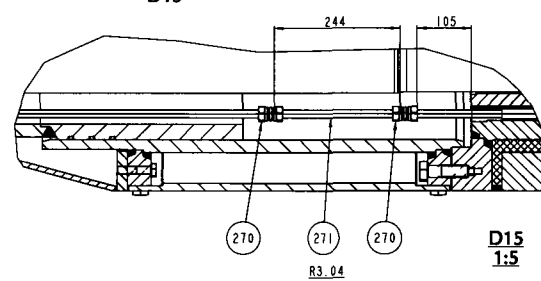
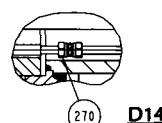
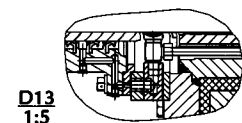
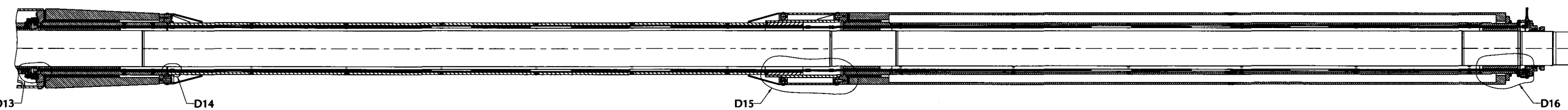
TE3950-TE3950
1:15



TE3951-TE3951
1:5



X6-X6
1:15

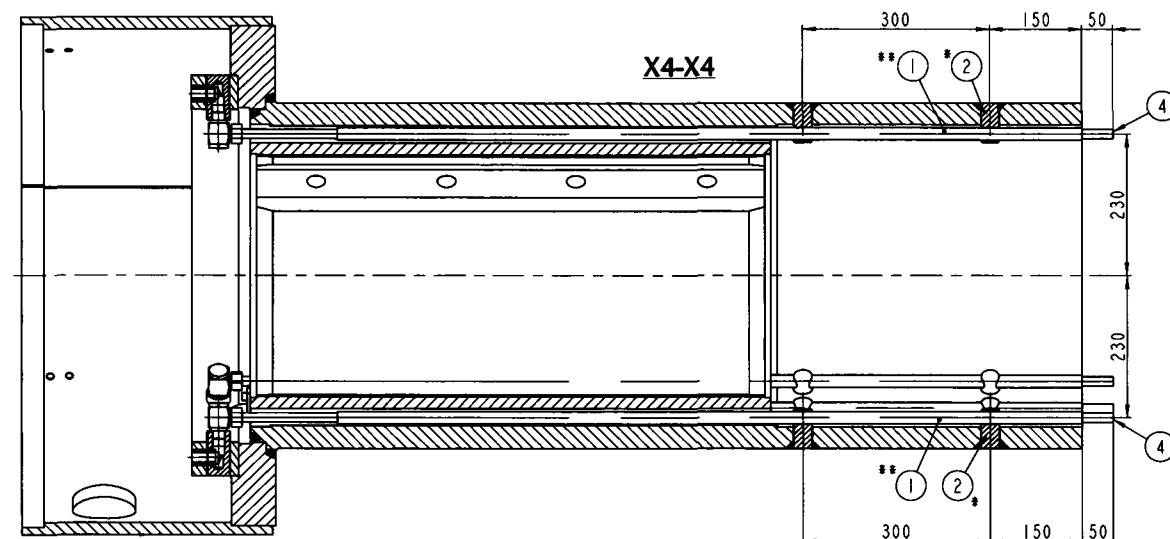
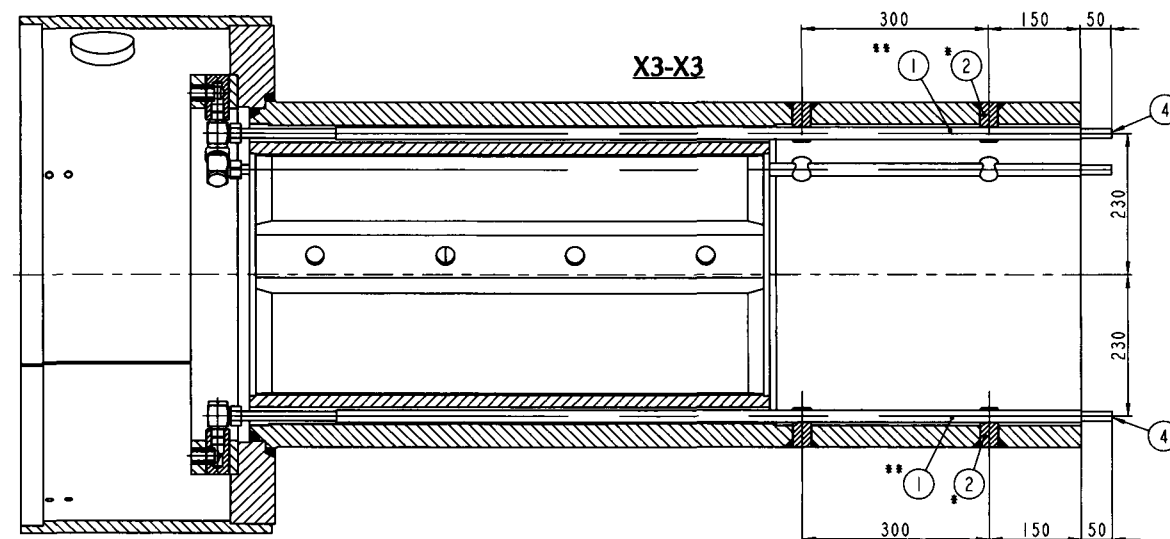
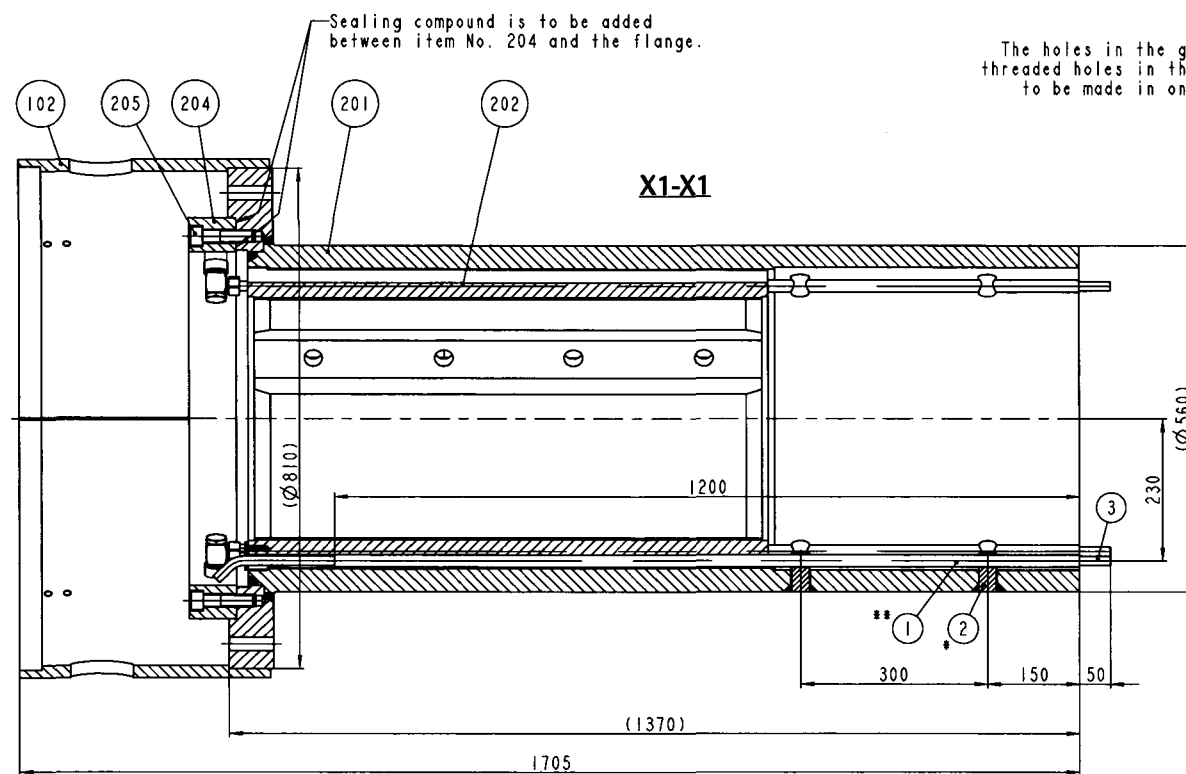


R3.09	Pipe connection, G1/2, for aft seal chamber #3#3S, outlet. Pipe connection according to view X6-X6.
R3.08	Pipe connection, G1/2, for aft seal chamber #3#3S, inlet. Pipe connection according to view X6-X6.
R3.07	Pipe connection, G1/2, for aft seal chamber #2#3, outlet.
R3.06	Pipe connection, G1/2, for aft seal chamber #2#3, inlet.
R3.05	Thread to be sealed with Loctite 572, or similar.
R3.04	The length of the pipe is to be adapted by the shipyard during installation.
R3.03	Connection for temperature sensor TE3951 for the fwd bearing. See drawing number 2065137-6. Refer to plate 3 8418 for ordering of spare parts. Temperature sensor with two sensor elements - one spare.
R3.02	Connection for temperature sensor TE3950 for the intermediate bearing. See drawing number 2122406-7. Refer to plate 3 8418 for ordering of spare parts. Temperature sensor with two sensor elements - one spare.
R3.01	Connection for temperature sensor TE3952 for the aft bearing. See drawing number 2065138-8. Refer to plate 3 8418 for ordering of spare parts. Temperature sensor with two sensor elements - one spare.
Remark	Description

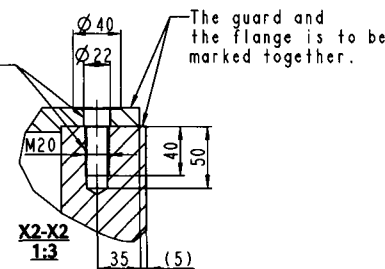
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Date	2008.06.17	Des.	TMK	Chk.	TMK	A.C.	#	Revision change	Page No.	3 of (3)	Proj.	MAN Diesel	Chg. Not.	Rev.	07
Scale	1:35	Size	AO	Product Type	VBS1080/ODG350	Item No.		Item Name	Propeller equipment	Item Id.	2113514-5	Final User Info.		Final User Text.	
Info. No.	3P1001														

AO-PAGE-2-MDKR-V00



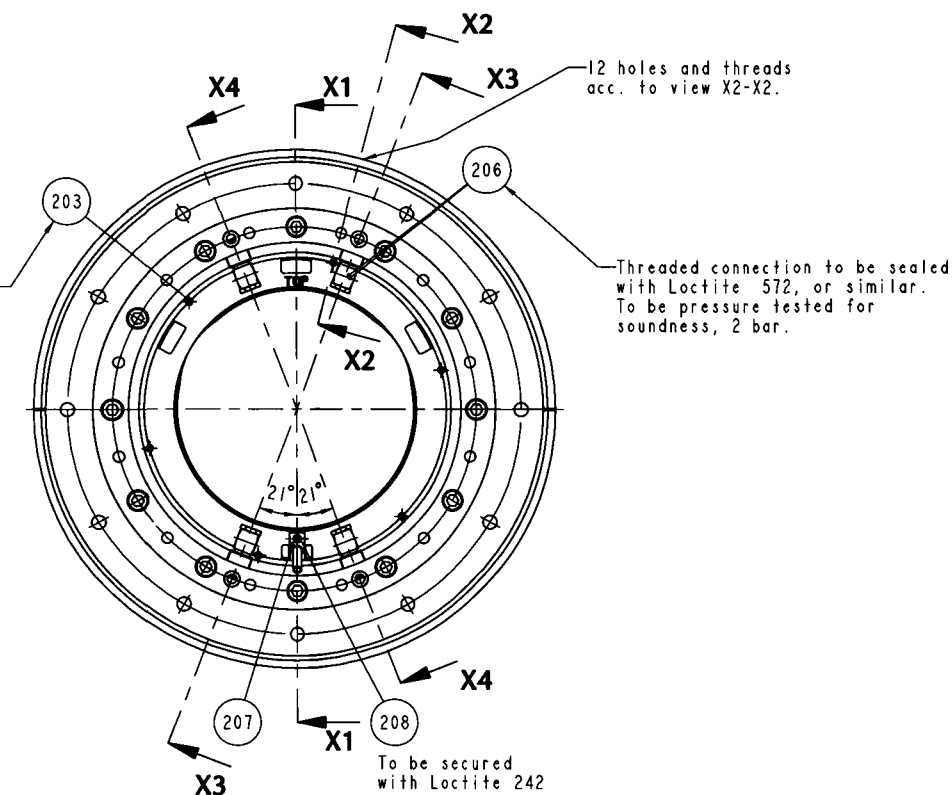
The holes in the guard and the threaded holes in the flange are to be made in one operation.



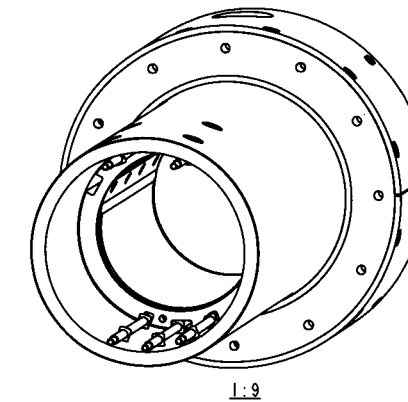
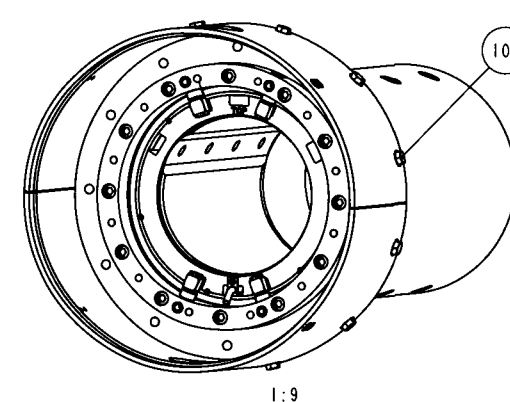
Locking screws for bearing.
To be secured with Loctite 242.
6 x M12-40/30
To be equally spaced on PCD 491

* The pipe supports, item No. 2, are to be mounted in Ø30 mm holes and welded. The holes are to be chamfered 12x45° for the welding seam.


** The support pipe is to be tack welded to the pipe support.



375 Test pressure: 2 bar for soundness.



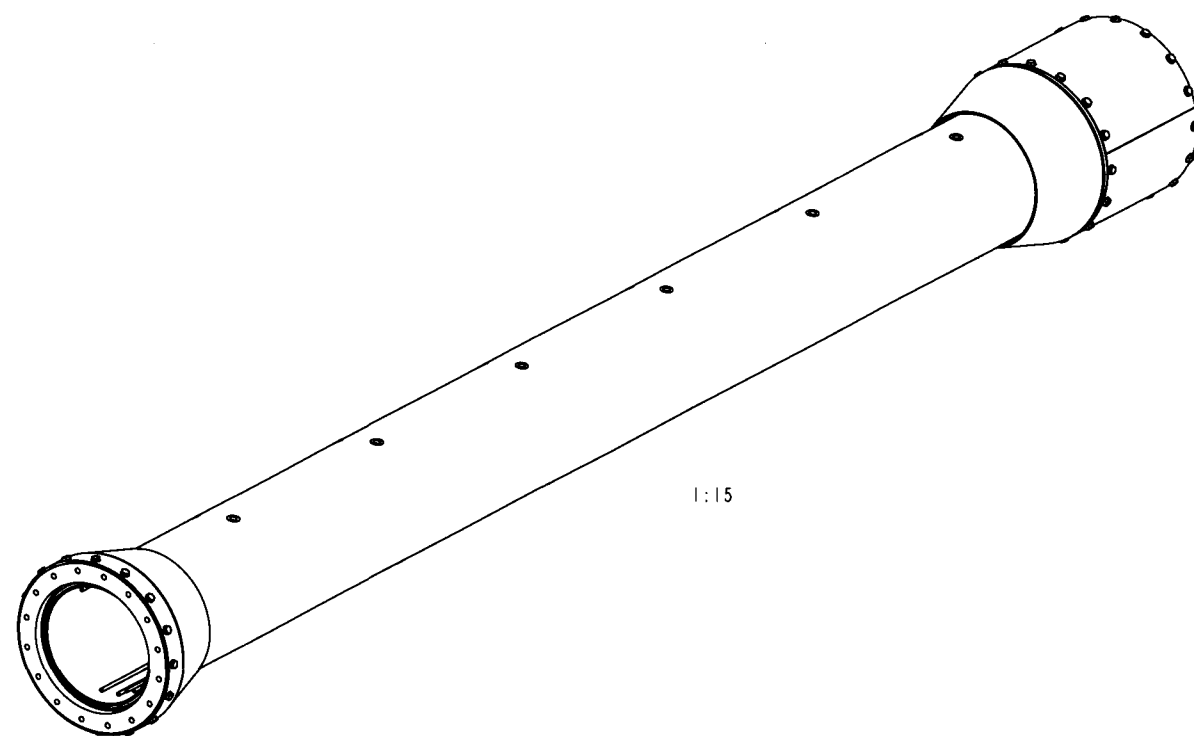
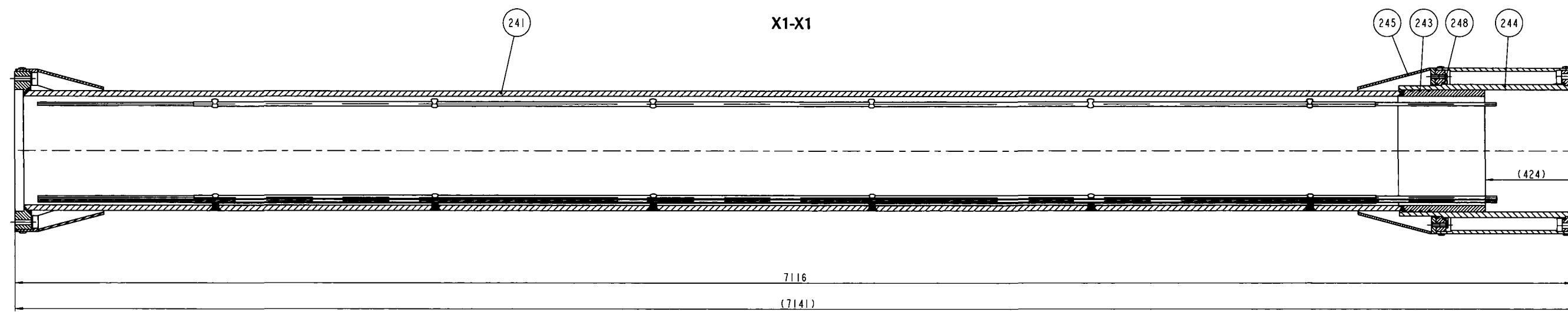
When ordering spare parts refer to:
Plate No 3 1005-20572 + item No

Basic Standards (MBD SB) & Suppl. Drawing No.:				EN21C Surf. roughness		Material / Blank:
				EN21F-m Tolerances		Final User Material:
					Mass (kg): 1361	
Date	Des.	Chk.	Appd.	A.C.	Change / Replacement	
				*	Replaced by Ident. No.:	
				*		
				*		
				*		
				*		
				*		
2008.04.08	TMK	TMK		*	Item No. 206 changed.	
2007.12.04	TMK	TMK		*	Plate edition 10776 -> 20572.	
2007.05.21	TMK	TMK		*	Item No. 102 updated.	
2007.04.12	TMK	TMK		*		
Similar Drawing No.:					Replacement for Ident. No.:	
Scale:	Size:	Type:	Page No.:			MAN B&W Diesel A/S
1:6	A1		1 of (1)			
Info. No.:		Description:				Ident. No.:
3V0605		Bearing bush, complete				2121077-6
Final User Info. No.:		Final User Description:				Final User Ident. No.:

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
CAD Drawing - do not correct by hand - Pre/E Drawing



375 Test pressure 2 bar for soundness.

The pressure test is to be carried out with the telescopic pipe (244) positioned as shown (dimension 7116).

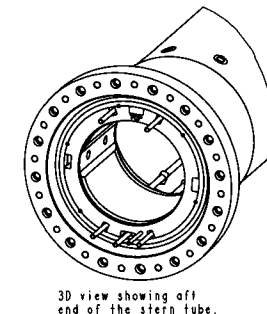
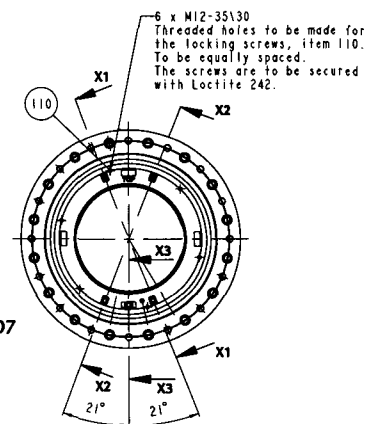
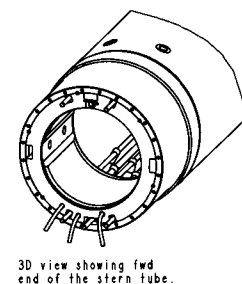
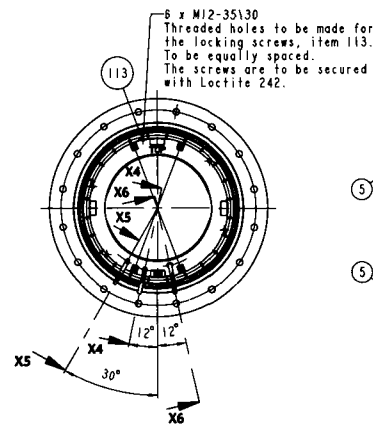
When ordering spare parts refer to:
Plate No. 3 1005-20572 + item No.

Basic Standards (MBD SB) & Suppl. Drawing No.:					EN21C Surf. roughness	Projection: 	Material / Blank:
					EN21F-m Tolerances	Mass (kg): 3021	Final User Material:
Date	Des.	Chk.	Appd.	A.C.	Change / Replacement		
				*	Replaced by Ident. No.:		
				*			
				*			
				*			
				*			
				*			
				*			
				*			
2007.05.22	TMK	TMK		*	Total length increased with 8 mm.		
2007.04.04	TMK	TMK		*			
Similar Drawing No.:					Replacement for Ident. No.:		
Scale:	Size:	Type:			Page No.:		MAN B&W Diesel A/S
1:10	A1				1 of (1)		
Info. No.:		Description:				Ident. No.:	
3V0647		Cover/telescopic pipe, complete				2121920-0	
Final User Info. No.:		Final User Description:				Final User Ident. No.:	

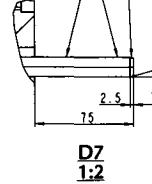
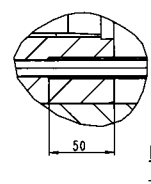
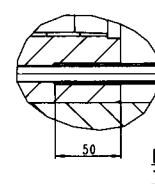
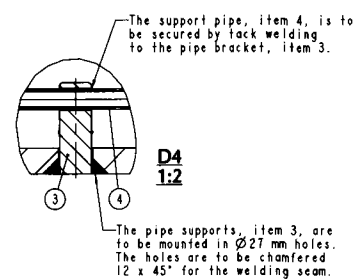
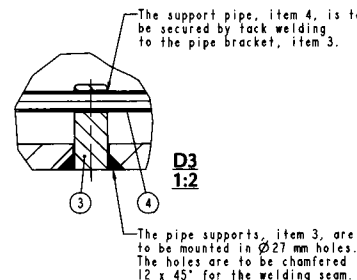
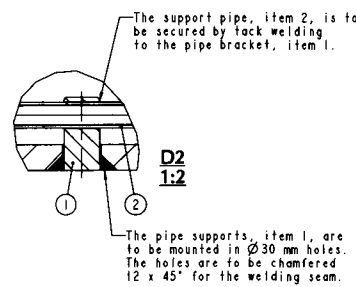
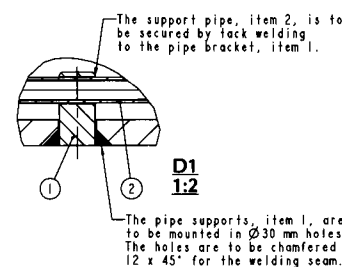
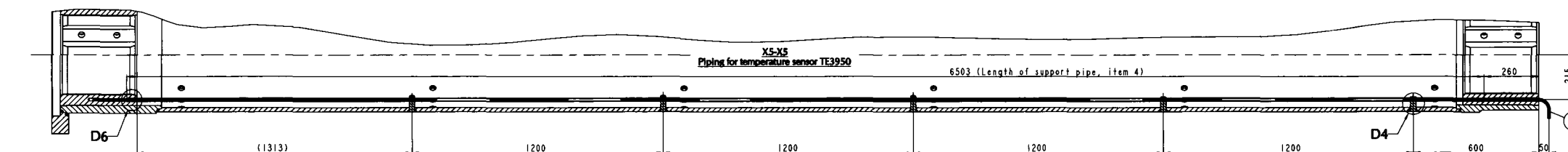
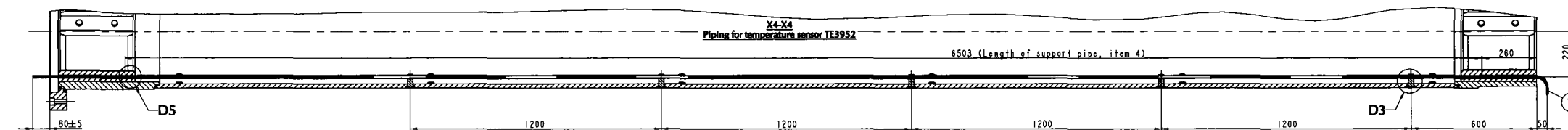
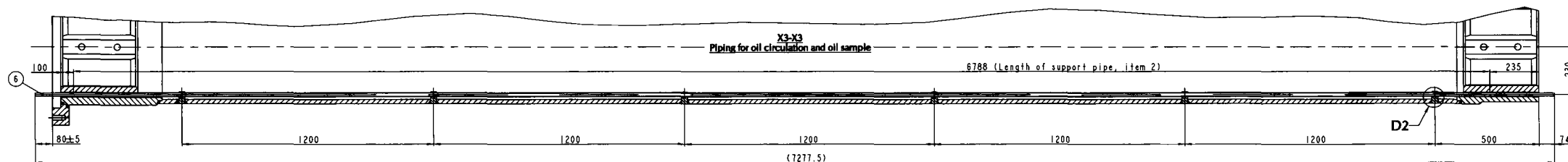
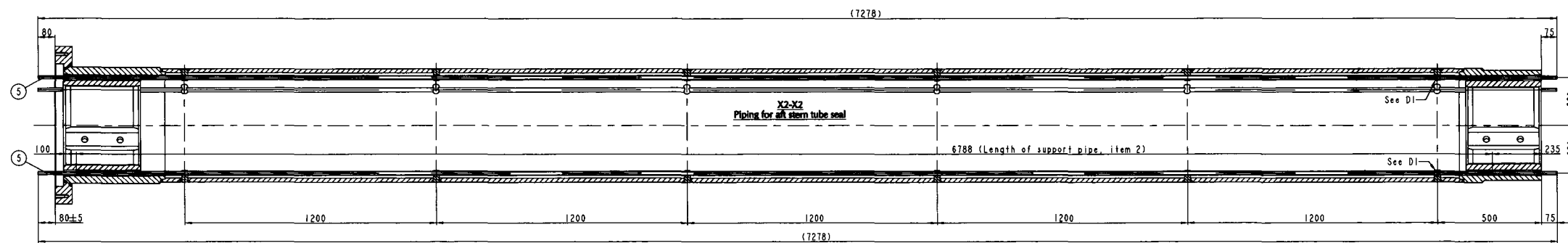
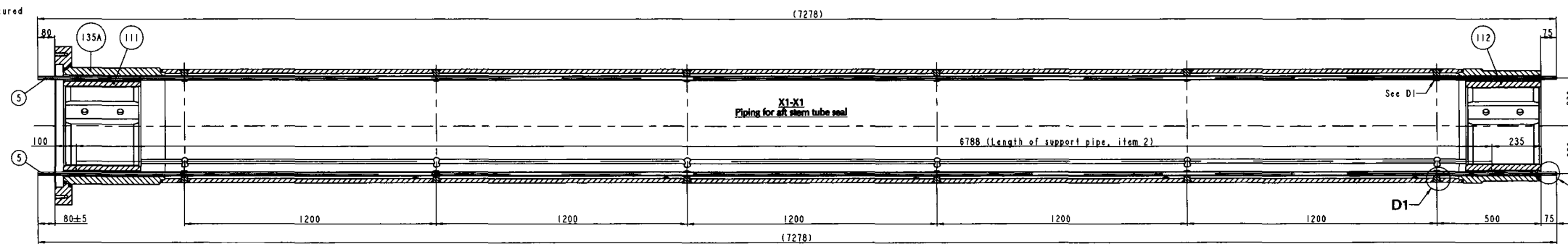
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CAD Drawing - do not correct by hand - Prof/E Drawing



Important!
Make sure to orientate the bearings (item Nos. 111 and 112) as shown in proportion to the threaded holes in the aft and fwd end of the stern tube (item No. 135).




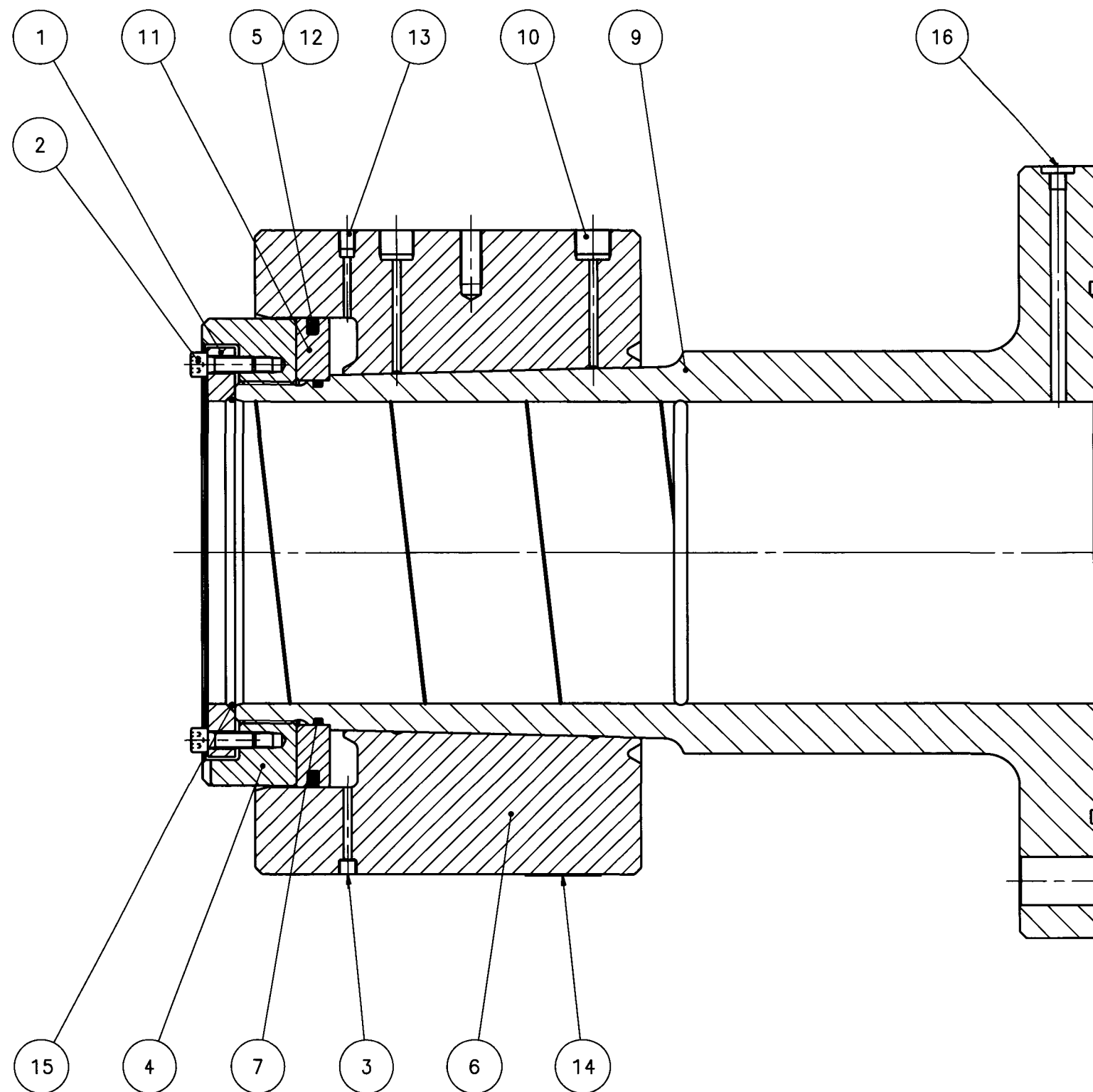
The pipes, item 5, are to be chamfered approx. 2.5 x 15° in this end only.
The pipe end is to be free from dents and scratches.



When ordering spare parts refer to:
Plate No. 3 1005-20572 + item No.

Pressure testing of stern tube
[375] Test pressure: 2 bar for soundness
To be tested after mounting of the pipe supports.

Basic Standards (MBO SB) & Suppl. Drawing No.:				EN21C Surf. roughness		Projection: 		Material / Blank:		
				EN21F-m Tolerances		Mass (kg): 2518		Final User Material:		
Date		Des.	Chk.	Appd.	A.C.	Change / Replacement				C
						R Replaced by Ident. No.:				
						R				
						R				
						R				
						R				
						R				
						R				
						R				
						R				
						R				
						R				
						R				
2007.11.13		TMK	TMK			R				
Similar Drawing No.:						Replacement for Ident. No.:				
Scale:		Size:		Type:		Page No.:		MAN B&W Diesel A/		
1:9		AO				1 of (1)				
Info. No.:		Description:				Ident. No.:		Final User Ident. No.:		
3V0601		Stern tube, complete				2131096-0				
Final User Info. No.:		Final User Description:								



Note:

When ordering spare parts
refer to:

plate no. 3 1005-XXXXX

+ item no.

XXXXX refers to the plants

P-no. as given on your

propeller equipment drawing.

Date	Des.	Chk.	A.C.	Revision change	Chg. Not.	Rev.
20081217	NJN	MMA	Z3	Pos. 13 line moved, note text changed		01
20000913	EVA	LFJ	*		2-B073	00
Basic Standards (MBO SB):				Suppl. Drawing No.:		
EN21F-m Tolerances EN21C Surf. roughness						
Material / Blank:				Final User Material:		Mass (kg):
Scale:	Size:	Product Type:			Page No.:	Projection:
	A1	ODG			01 (01)	MAN Diesel
Info. No.:		Item Name:			Item Id.:	
3P1203		Coupling flange assembly ODG			2052294-7	
Final User Info. No.:		Final User Description:			Final User Ident. No.:	

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CAD Drawing - do not correct by hand - CDD Drawing

[illegible]

Oil tank for fwd seal.
Supplied with stern tube seal.

Level alarm
low LSL3971

Oil tank for
fwd seal.
Oil between
sealing ring
#4 and #5

G3/8


≥ DN15

Drain
G1/2

1500 ± 500

≥ DN15

Sectional view of
inboard stern tube seal
See the propeller
equipment drawing

Basic Standards (MBD SB) & Suppl. Drawing No.:				EN21C Surf. roughness		Projection: 		Material / Blank:	
				EN21F-m Tolerances		Mass (kg):		Final User Material:	
Date	Des.	Chk.	Appd.	A.C.	Change / Replacement				C.No
				*	Replaced by Ident. No.:				9
				*					8
				*					7
				*					6
				*					5
				*					4
				*					3
				*					2
20071210	TMK	TMK		Z4	Formula for calculation of pressure changed.				1
20071113	TMK	TMK		*					0
Similar Drawing No.:					Replacement for Ident. No.:				
Scale:		Size:		Type:		Page No.:		MAN B&W Diesel A/S	
		A1		VBS, DSS 4BL /MK2		01 (01)			
Info. No.:		Description:						Ident. No.:	
3P1004		oil system for stern tube and seals						2130964-2	
Final User Info. No.:		Final User Description:						Final User Ident. No.:	