

# PRINCIPAL PARTICULARS

LENGTH	(O. A.)	approx. 180.00 M
LENGTH	(B. P.)	172.00 M
BREADTH	(M.L.D.)	30.00 M
DEPTH	(M.L.D.) UPPER DECK	14.70 M
DRAFT	(DESIGNED)	9.50 M
	(SCANTLING)	approx. 9.80 M
DEADWEIGHT	(at D.L.W.L.)	approx. 32,000 MT
	(at SCANTLING DRAFT)	approx. 33,500 MT
MAIN ENGINE	B&W 5S50MC-C7	
	(at MCR)	7,900 kW x 127.0 RPM
	(at NCR)	6,715 kW x 120.3 RPM
SERVICE SPEED	(at SCANTLING DRAFT)	
	(NCR with 15% S.M.)	abt. 14.0 KTS
COMPLEMENT		25P+6
		KR
	+KRS1-Bulk Carrier "ESP", CSR, BC-A (HOLD Nos.2 & 4 may be empty), GRAB [20]	

SURFACE ROUGHNESS (Ra) (ISO 1302)		
μm	KS (JIS) SYMBOL	GRADE NO
50	~	N12
25	▽	N11
12.5	▽	N10
6.3	▽▽	N9
3.2	▽▽	N8
1.6	▽▽	N7
0.8	▽▽▽	N6
0.4	▽▽▽	N5
0.2	▽▽▽	N4
0.1	▽▽▽	N3
0.05	▽▽▽	N2
0.025	▽▽▽	N1



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## 图纸 分发

分发处		分发数	
汉字	ENGLISH	FW	FC
综合设计	Integrated Design Division	1	1
船体设计 1	Hull Design 1 Division		
船体设计 2	Hull Design 2 Division	3	3
船装设计	Hull Outfitting Design		
船室设计	Accommodation Design		
机装详细设计	Machinery Detail Design	2	2
机装生产设计	Machinery Production Design	3	3
电装设计	Electrical Design	1	1
先行舰装	Preoutfitting Division		2
E/R 舰装	E/R Outfitting		2
船室生产	Accommodation Production		
试航部	Trial Cruise Division		2
品质经营	Quality Assurance		2
品质物流(镇海)	Logistics Team (Jinhae)		1
轴能设计(保管)	Shaft & Rudder Design	1	1
合计 (Total)		11	20
<input type="checkbox"/>	For Working		
<input checked="" type="checkbox"/>	For Construction		
<input type="checkbox"/>	For Revision		

HULL NO.  
1009-1012  
1031-1032

PROJECT TPC KOREA  
33,5K DWT LOG / BULK CARRIER

APPD BY  
M. Y. Park

CHKD BY  
J. S. Lee

## DETAIL OF STERN TUBE

DWN BY  
J. H. Park  
(Ext. : 0226)

TEL  
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TOTAL 11 SHEET WITH COVER



Samjin Shipbuilding  
Industries Co., Ltd.

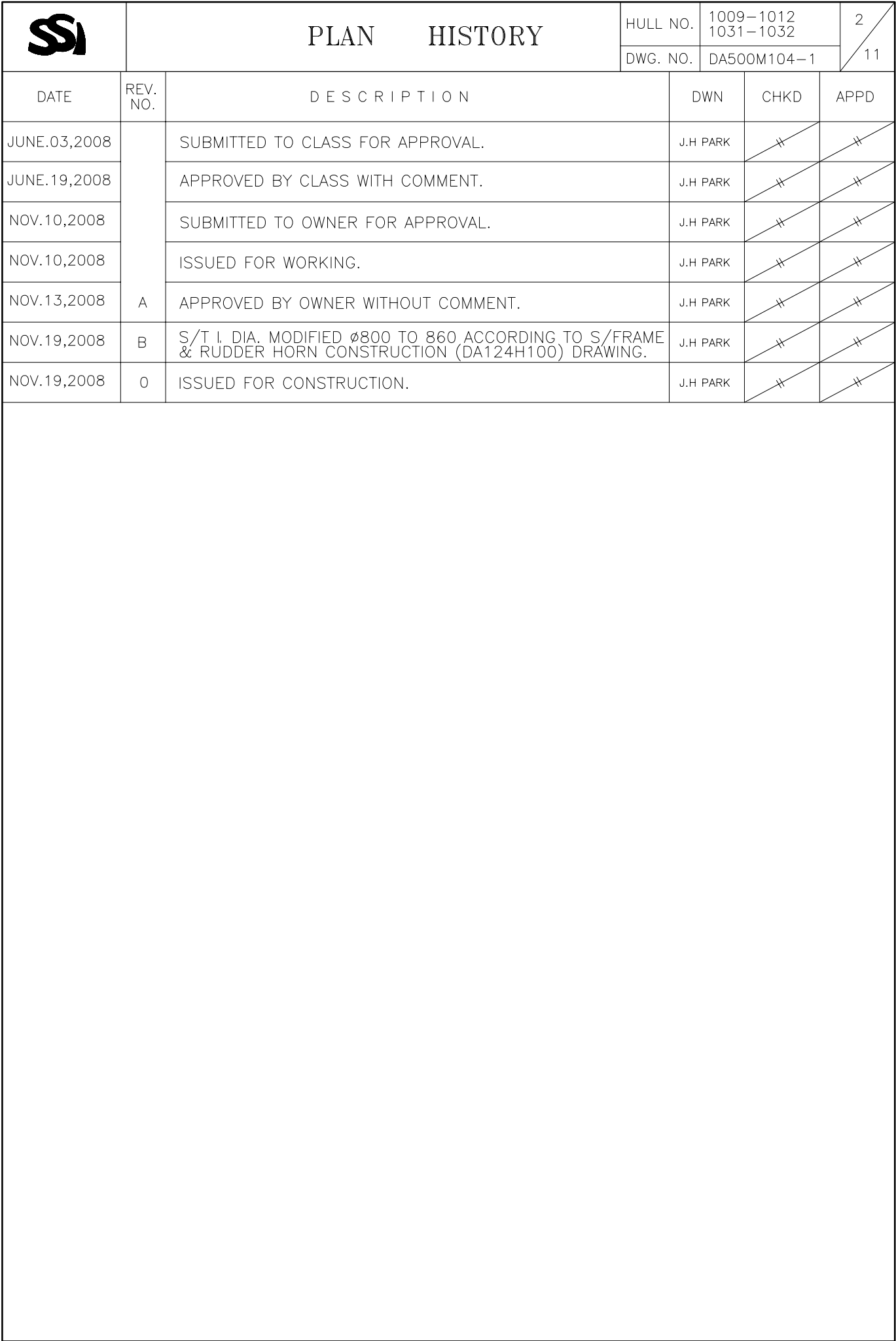
DEPT  
SHAFT & RUDDER  
DESIGN TEAM


DATE  
JUNE. 03. 2008

DWN NO.  
DA500M104-1

SCALE  
EACH

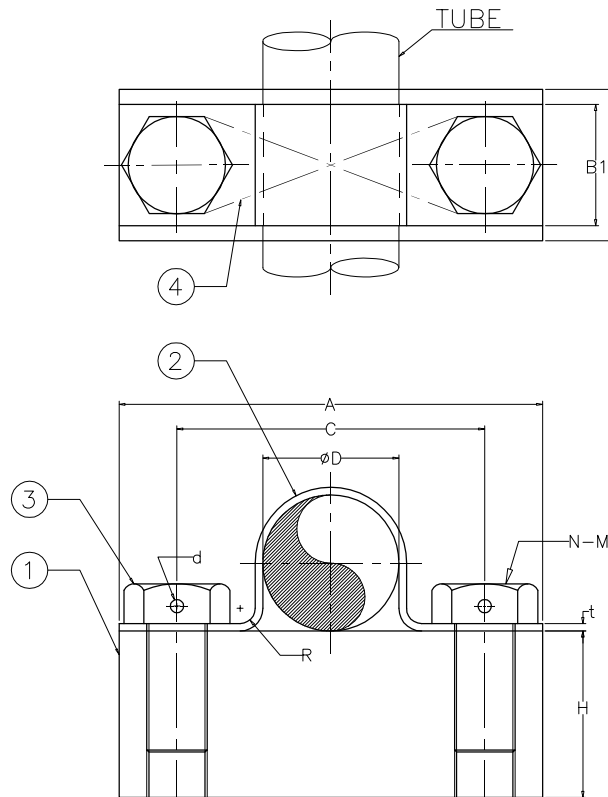
REV. NO.  
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		DETAIL OF STERN TUBE			HULL NO.		1009-1012 1031-1032	3 11
					DWG. NO.		DA500M104-1	
NO	PAGE	NAME	MATERIAL	Q'TY/SHIP		WEIGHT (KG)		REMARKS
				WORK.	SPARE	PIECE	TOTAL	
1	PAGE 6,7	AFT STERN TUBE SEAL	SEAL CASING :BRONZE, CLASS APPROVED TYPE	1	—	245		JMT SUPPLY
2	PAGE 6,7	FWD STERN TUBE SEAL	SEAL CASING : CAST IRON	1	—	157		JMT SUPPLY
3	PAGE 8	AFT STERN TUBE BUSH	CAST IRON LINED WHITE METAL	1	—	558		JMT SUPPLY
4	PAGE 9	FWD STERN TUBE BUSH	CAST IRON LINED WHITE METAL	1	—	202		JMT SUPPLY
5	PAGE 10	ROPE GUARD	SS400 (EPOXY COATING)	1	—	84		YARD SUPPLY
6	PAGE 6,7	PIPE FOR S/T L.O INLET/VENT LINE	40A, SPPS SCH.160	2	—	—		YARD SUPPLY
7	PAGE 6,7	PIPE & FLANGE FOR S/T L.O OUTLET/ DRAIN LINE	5K-40A, SPPS SCH.80	2	—	—		YARD SUPPLY
8	PAGE 6,7	TUBE FOR S/T AFT SEAL L.O LINE	ø15, SUS316	4	—	—		YARD SUPPLY
9	PAGE 6,7	PIPE & FLANGE FOR S/T AFT SEAL L.O LINE	5K-25A, SPPS SCH.80	4	—	—		YARD SUPPLY
10	PAGE 5	SUPPORT FOR S/T AFT SEAL L.O PIPE	SS400	12	—	—		YARD SUPPLY
11	PAGE 6,7	STUD ELBOW	S25C PT 1/2"xø15	8	—	—		JMT SUPPLY
12	PAGE 6,7	TUBE FOR S/T AFT BUSH TEMP.SENSOR	ø12, SUS316	1	—	—		JMT SUPPLY
13	PAGE 5	SUPPORT FOR S/T AFT BUSH TEMP. SENSOR PIPE	SS400	5	—	—		YARD SUPPLY
14	PAGE 11	SHAFT EARTHING DEVICE	MAKER STANDARD	1	—	51		K.C.LTD. SUPPLY
15	PAGE 6,7	TEMP.SENSOR FOR AFT BUSH	SUS304	1	1	—		JMT SUPPLY
16	PAGE 6,7	SOCKET	SS400	8	—	—		YARD SUPPLY
17	PAGE 6,7	HEX. BOLT	SUS304 M20x75L	20	—	—		JMT SUPPLY
18	PAGE 6,7	HEX. BOLT	SUS304 M20x65L	20	—	—		JMT SUPPLY
19	PAGE 6,7	DISTANCE RING (SPLIT TYPE)	SS400	1	—	—		JMT SUPPLY
20	PAGE 6,7	NET PROTECTOR	NBR	1	—	—		JMT SUPPLY



TUBE STRAP

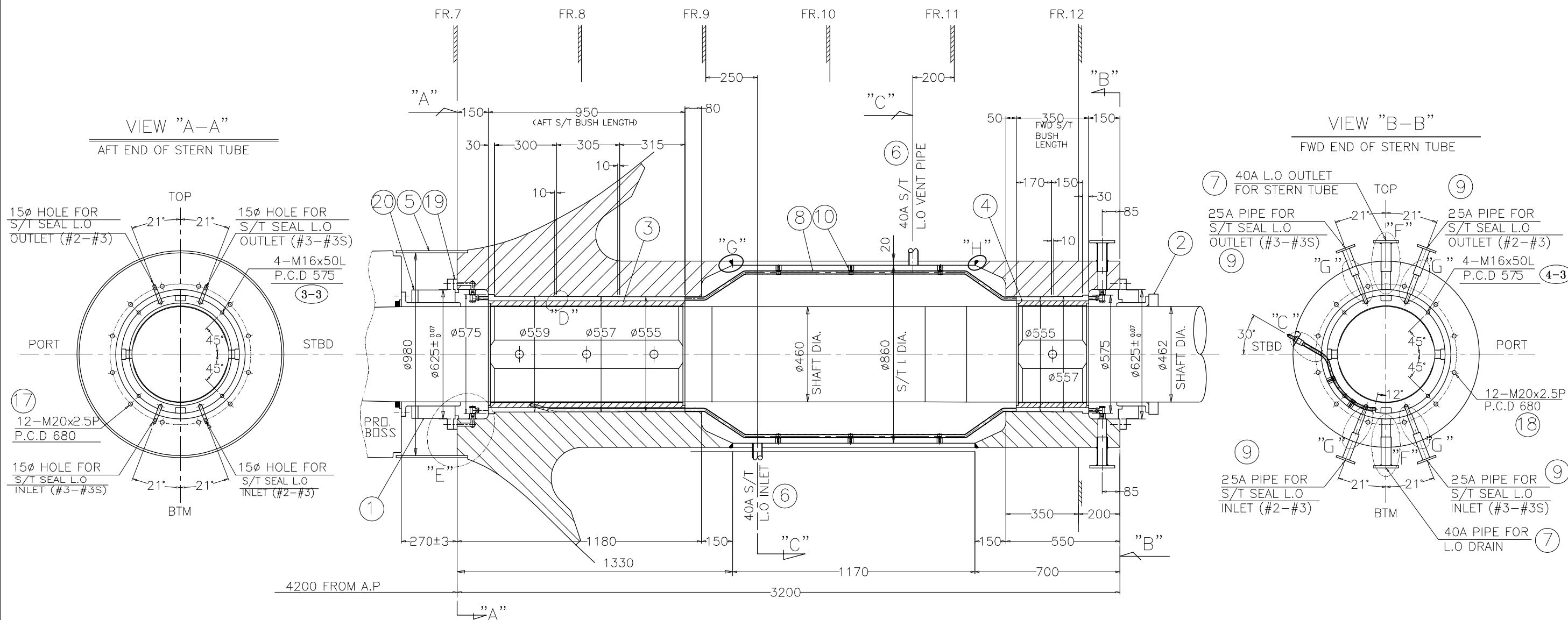


## 1. MATERIAL

MARK	NAME	MATERIAL	SIZE	Q'TY	REMARK
1	STRAP SHEET	SS400	20t	1	
2	TUBE STRAP	BRASS	1.5t	1	
3	HEX. HEAD BOLT	SS400	M8*20L	2	
4	WIRE	SUS316	1.6	1	

## 2. DIMENSION TABLE

[illegible]



## NOTES)

### 1. FITTING FORCE OF STERN TUBE BUSHES (尾轴衬套的装配压力)

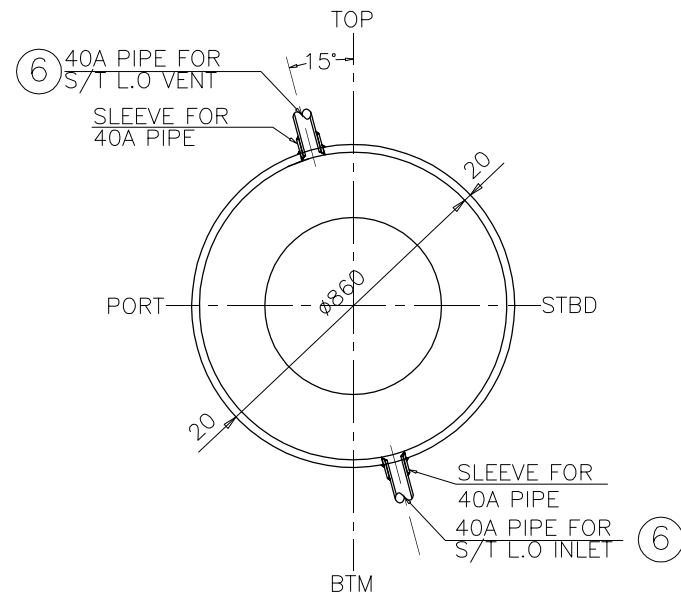
ITEM	FITTING FORCE (TON)		
	MIN.	AIMED	MAX.
AFTER BUSH	0.02xDs = 9.20	0.06xDs = 27.60	0.12xDs = 55.20
FWD BUSH	0.02xDs = 9.24	0.04xDs = 18.48	0.08xDs = 36.96

\* Ds ; DIAMETER OF PROPELLER SHAFT (Ds ; 螺旋桨轴的直径)

- L.O INLET PIPE IS TO BE CONNECTED BY WELDING. (滑油进入管应通过焊接连接) (NDT(PT) TO BE CARRIED OUT AFTER WELDING.) (NDT(PT)应在焊接后进行)
- S/TUBE TIGHTNESS TEST TO BE SUBSTITUTED BY SURROUNDING C.W.TANK AND BY S/T L.O TANK LEAK TEST. (尾轴的气密测试将被环绕冷却水仓和尾轴滑油仓渗漏测试取代.)
- THE OUTSIDE DIAMETER OF STERN BUSH TO BE INTERFERED WITH THE STERN FRAME WITHIN 0.02 - 0.05 mm. (船尾衬套外径与船尾构架之间的干扰应在0.02-0.05mm之间.)

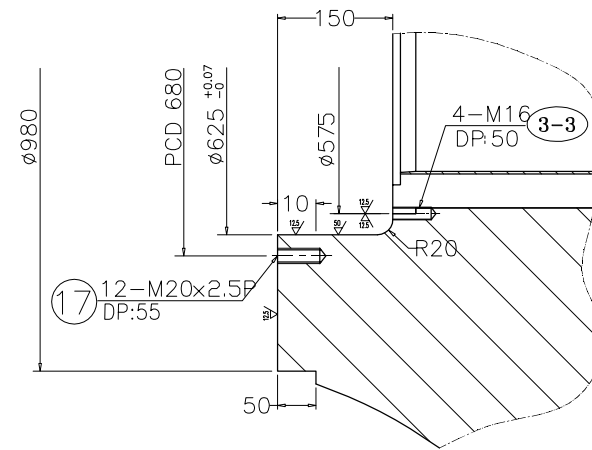
HULL NO.	1009-1012 1031-1032	DETAIL OF STERN TUBE
DWG. NO.	DA500M104-1	
SCALE	1/20	

VIEW "C-C"



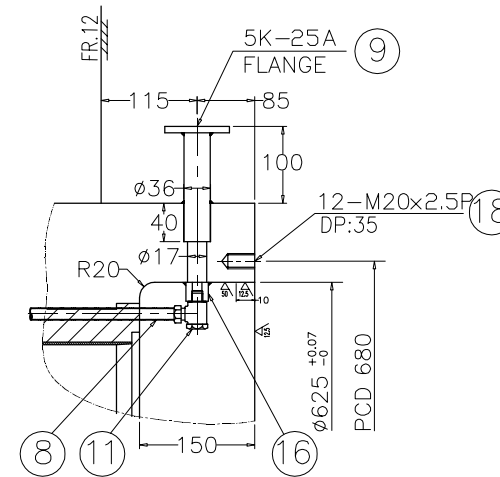
DETAIL "E"

SCALE : 1/10



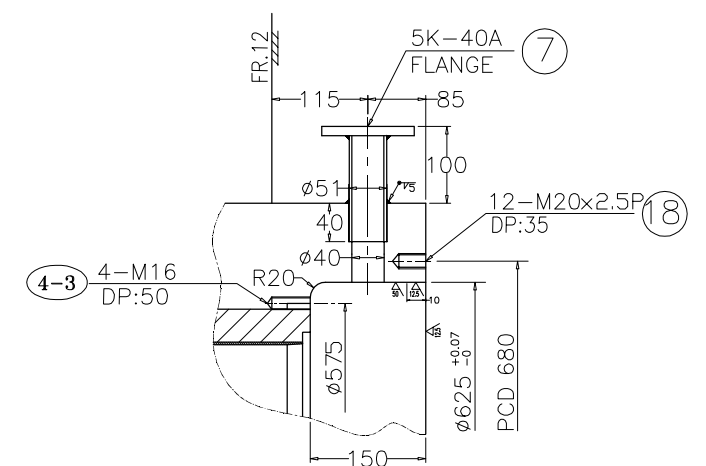
DETAIL "G"

SCALE : 1/10

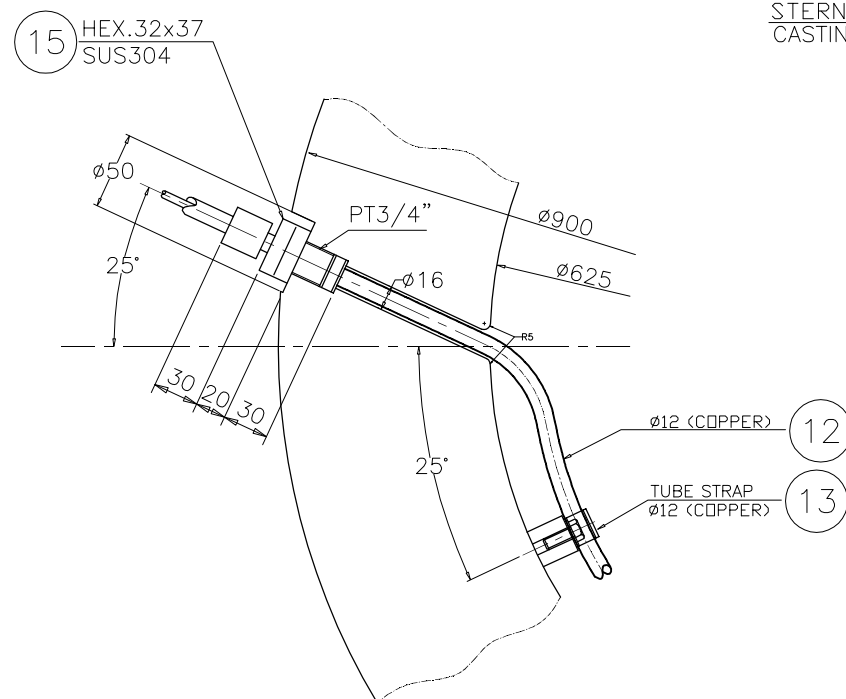


DETAIL "F"

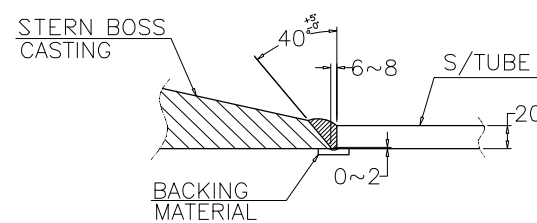
SCALE : 1/10



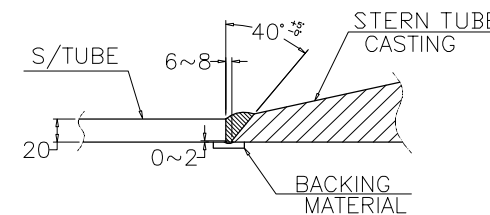
DETAIL "C"

1-S/T AFT BUSH  
TEMP.SENSOR OUTLET  
SCALE : 1/5


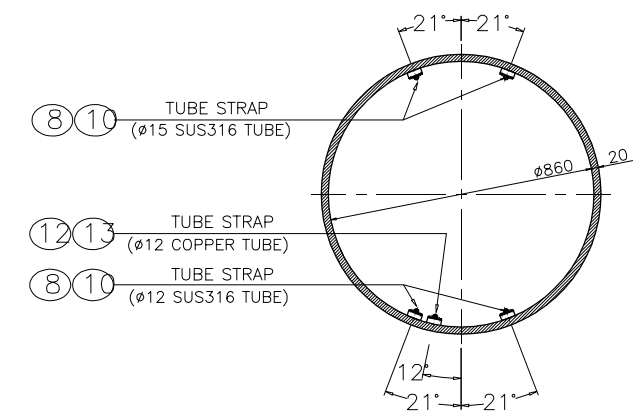
"G" WELDING DETAIL

-.SCALE : NONE  
-.LOW HYDROGEN ELECTRODE TO BE USED.


"H" WELDING DETAIL

-.SCALE : NONE  
-.LOW HYDROGEN ELECTRODE TO BE USED.


SECTION "B-B"

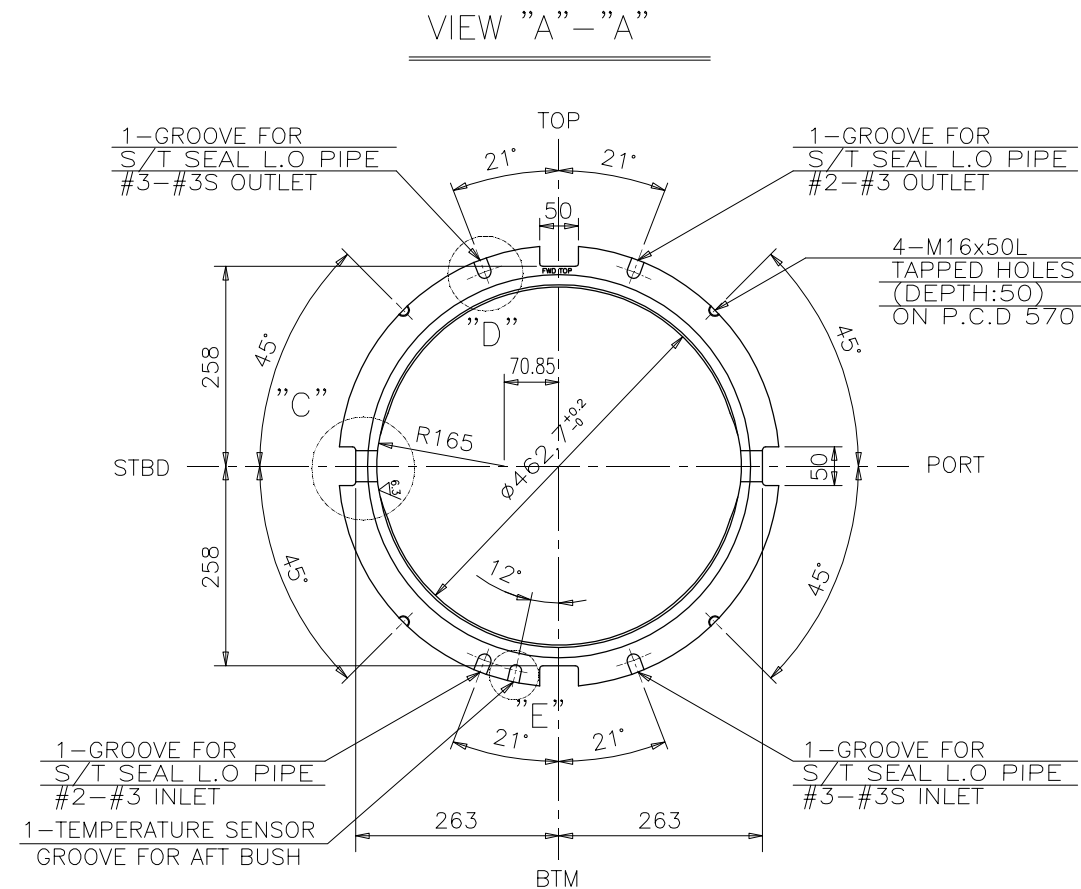
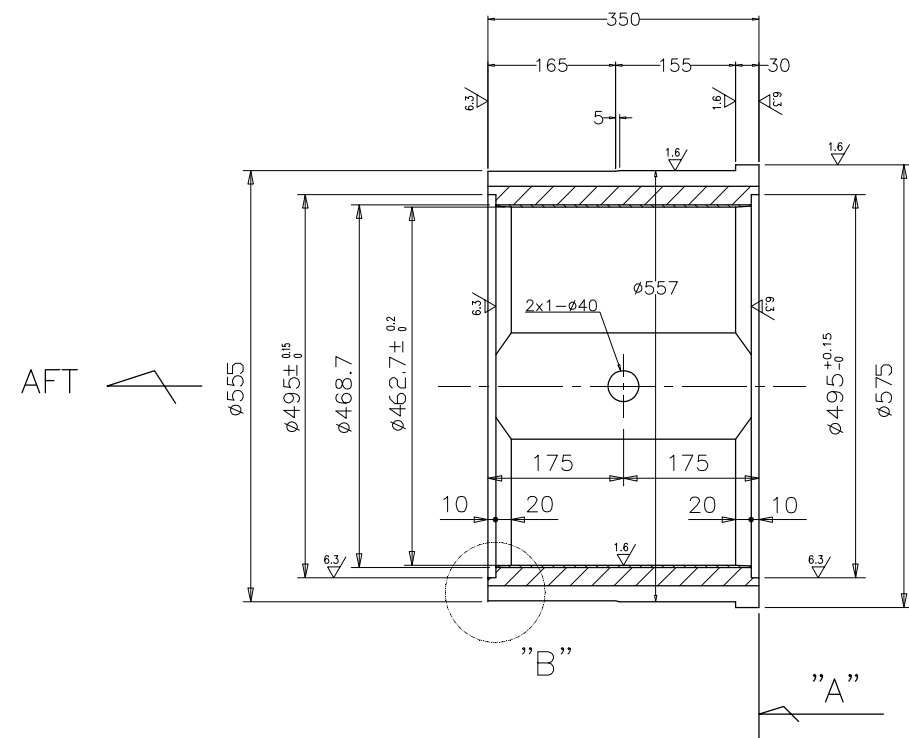


HULL NO.	1009-1012 1031-1032
DWG. NO.	DA500M104-1
SCALE	1/20

DETAIL OF STERN TUBE

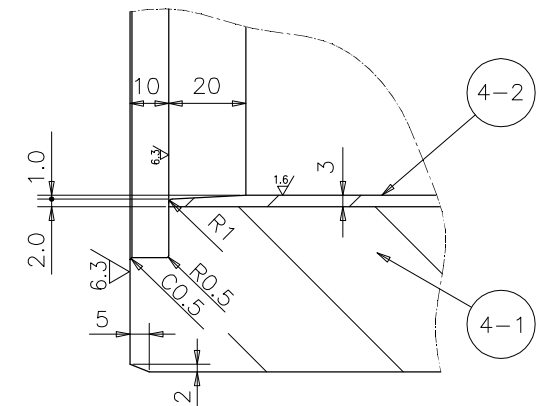
### DETAIL OF STERN TUBE

# 4 FWD STERN TUBE BUSH

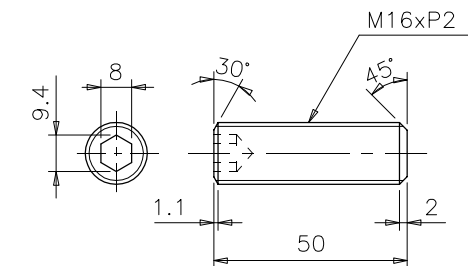


## DETAIL "B"

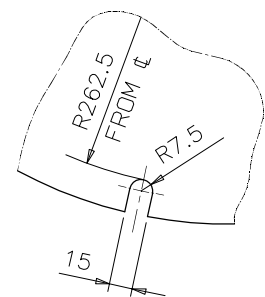
SCALE : 1/2



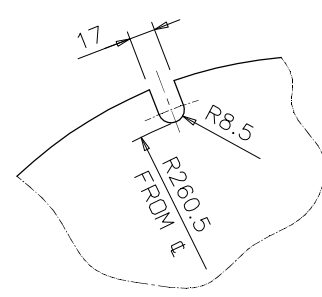
## 4-3 SECURING BOLT

HEX.SOCKET SET SCREW  
SCALE : 1/2


## DETAIL "E"

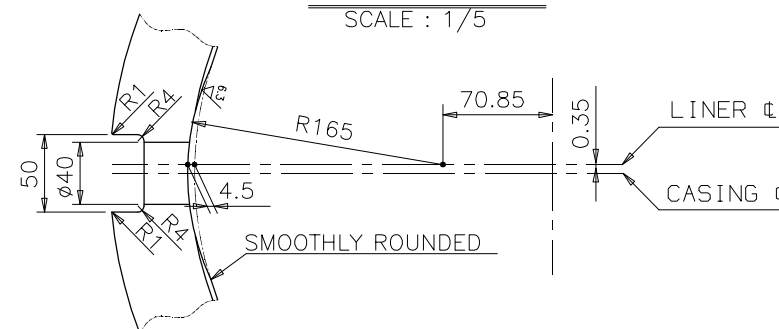
GROOVE FOR TEMP.SENSOR  
(SCALE : 1/5)


## DETAIL "D"

GROOVE FOR AFT S/T SEAL  
L.O PIPE(SCALE : 1/5)


## DETAIL "C"

SCALE : 1/5



NOTE)

- HOLES FOR SECURING BOLTS TO BE TAPPED HALF WAY EACH OF STERN FRAME AND BUSH FLANGE AFTER THE BUSH IS ASSEMBLED.
- BUSH WILL BE DELIVERED WITH 5-6MM MACHINING ALLOWANCE ON DIA.

4-3	SECURING BOLT	SCM440	4	—	M16x50L
4-2	FWD BUSH LINER	BABBITT(WJ2)	1	11Kg	
4-1	FWD BUSH CASING	CAST IRON(FC300)	1	191Kg	
NO.	ITEM	MATERIAL	Q'TY	WEIGHT	REMARK

HULL NO.	1009-1012 1031-1032	DETAIL OF STERN TUBE			
DWG. NO.	DA500M104-1				
SCALE	1/10				

Technical drawing of the stern boss casting, showing dimensions and labels:

- Overall width: 348
- Distance from left edge to centerline: 155
- Distance from centerline to right edge: 145
- Radius of the semi-circular cutout: 48
- Distance from left edge to the start of the semi-circular cutout: 30
- Depth of the semi-circular cutout: 10
- Labels: "B" (left side), "C" (right side), "A" (top and bottom edges).
- Labels: PROPELLER BOSS (left side), STERN BOSS CASTING (right side).
- Centerline dimension:  $\phi 980$

Technical drawing of a circular vessel cross-section. The drawing includes the following details:

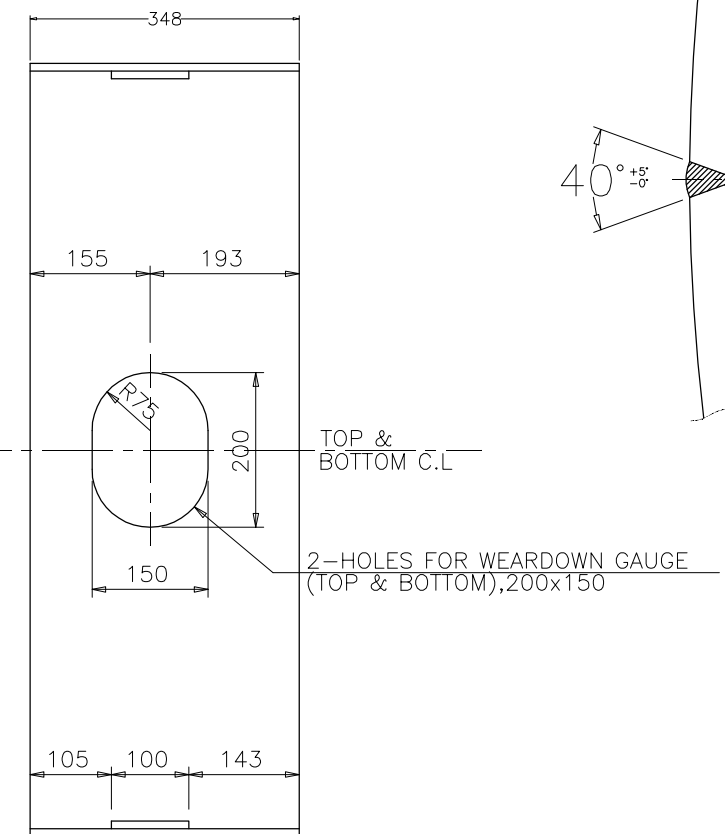
- Orientation:** Labeled "TOP" at the top and "BOTTOM" at the bottom.
- Centerline:** A vertical dashed line passing through the center.
- Port and Starboard:** Labeled "PORT" on the left and "STBD" (Starboard) on the right.
- Dimensions:**
  - Overall diameter:  $\phi 980$
  - Port side internal dimensions: 50, 50, and 100.
  - Starboard side internal dimensions: 100, 50, and 50.
  - Top and bottom internal dimensions: 10.
- Feature:** A feature labeled "D" is indicated on the port side.

Technical drawing of a mechanical part, likely a propeller hub, showing a cross-section. The drawing includes the following dimensions and features:

- A central circular hole with a diameter of 4.
- A small circular feature with a diameter of 0.
- A central slot or hole with a width of 2-3.
- A large rectangular section with a width of 50.
- A smaller rectangular section with a width of 50.
- A small circular feature with a diameter of 0.

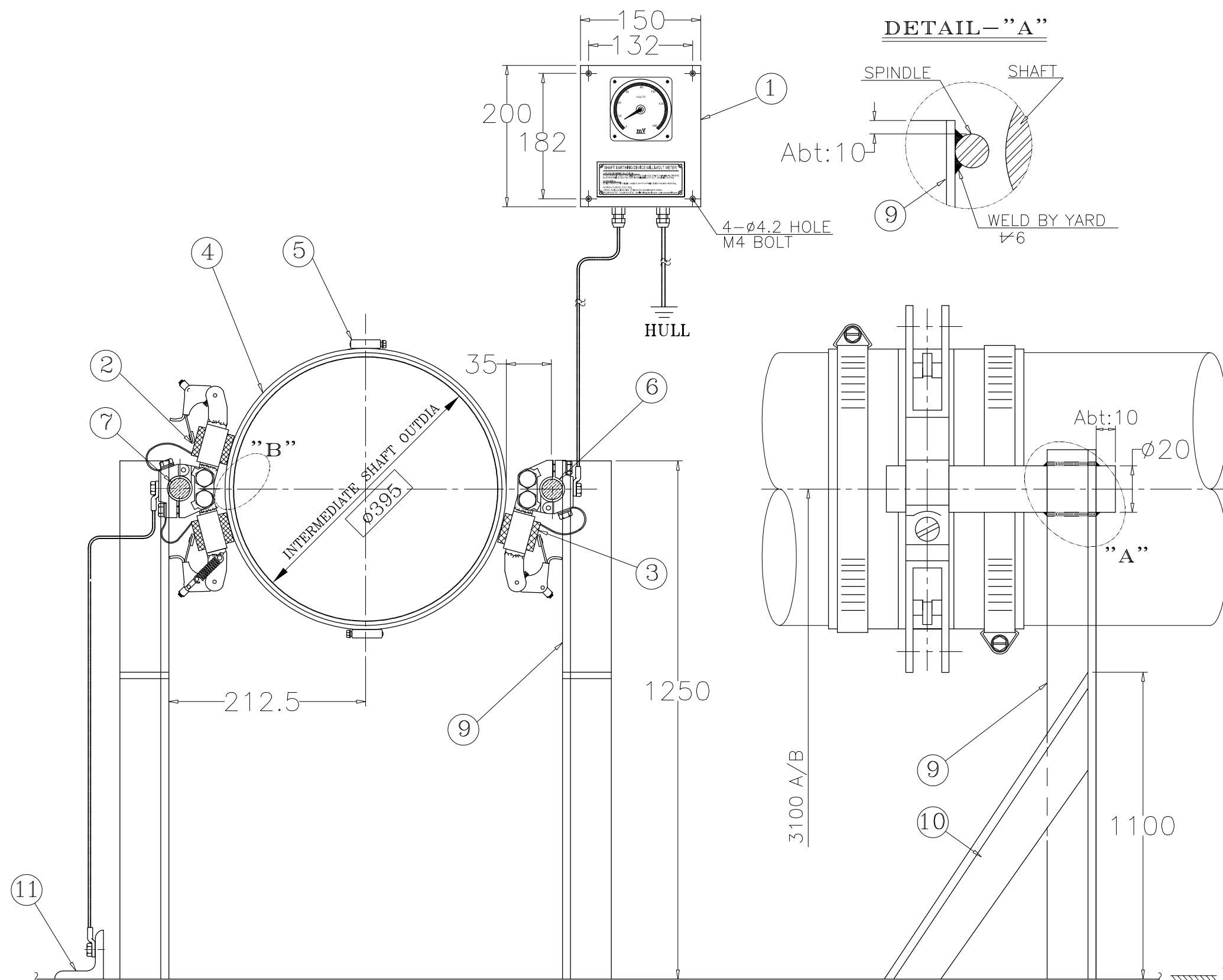
Technical drawing of the stern boss casting assembly. The drawing shows a cross-section of the assembly with the following dimensions and components:

- ROPE GUARD**: A component mounted on top of the stern boss casting.
- PROPELLER BOSS**: The main component on the left, with a diameter of  $\varnothing 960$ .
- STERN BOSS CASTING**: The main component on the right, which is hatched.
- Dimensions**:
  - Horizontal dimensions: 10, 30, 10, 10, 50, 2, 2.
  - Vertical dimensions: 10, 10, 8.
  - Angle:  $40^{\circ} \pm 5^{\circ}$ .



HULL NO.	1009-1012 1031-1032
DWG. NO.	DA500M104-1
SCALE	1/10

### DETAIL OF STERN TUBE



NO	DESCRIPTION	Q'TY	REMARK
14-1	MONITORING PANEL	1	
-2	DOUBLE BRUSH HOLDER	1	
-3	SINGLE BRUSH HOLDER	1	
-4	SLIP RING	1	
-5	CLAMP BAND	2	
-6	INSULATED SPINDLE	1	Ø20
-7	SPINDLE	1	
-8	BLUSH	3	
-9	75 EQUAL ANGLE	1	
-10	75 EQUAL ANGLE	1	
-11	GROUNDING BKT (75 E.A)	1	0.1M

\* FOR THE DETAILS OF SHAFT EARTHING DEVICE  
REFER TO THE DWG OF SHAFT EARTHING DEVICE.  
(关于轴接地装置的详细资料, 请参考轴接地装置图纸.)

HULL NO.	1009-1012 1031-1032
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SCALE	1/10

DETAIL OF STERN TUBE