



INTERNAL DOCUMENT No. 322

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**B H Hart, N T Timmins, D Grohmann,
K G Birch, R W Pascal & C H Clayson**

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**INSTITUTE OF OCEANOGRAPHIC SCIENCES
DEACON LABORATORY**

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ABSTRACT A Discus 'wave following' buoy was designed as part of the IOS Meteorological Program. The Design philosophy adopted for a Discus Buoy is described, and details of the implementation are discussed. A complete set of drawings of the hardware as manufactured for the first deployment in the Autumn of 1991 is included for completeness and forms the basis for operational use or development of the system. The subsequent modifications, that have been implemented to date, are also included in the set of drawings.		
KEYWORDS Sonic Buoy Solent Sonic Anemometer		
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Buoy	
Top Ring	
Centre Instrument Housing	
Young's Wind Monitor	
Air Temperature	
Buoy Pipe	
Assymetric Anemometer Clamp	
Top Ring assembly	
Flange Tube	
Battery Box	
Battery Box Lid	
Young's Anemometer Clamp	
Anchor Frame	
Top Ring Clamp	

60mm Clamp
Angle-A
Anemometer Base Tube
DCP Antenna Tube Base
Clamp Bolt
JB End Cap-Buoy
JB Tube-Buoy
Temperature Sensor Mounting
Spacer Ring
Bracket
Clamp
Anemometer Extension Tube
Flange
End Cap
Tube
Plate
Tube Xenon
Tube RF Beacon
Body Sea Surface Temperature Sensor
Insulator Air Temperature Sensor
Masthead JB
Masthead JB Lid
Masthead JB Gasket
Top Hat for Connector Series 5
Top Hat for Connector Series 4
Top Hat for Connector Series 3
Anemometer Base Adapter
DCP Base Adapter
Anemometer Tube Adapter Plug
PCB Bracket
Cover for Connector Series 3
Meteosat Box
Meteosat Box Lid
Meteosat Box Gasket
CPU Housing Box
CPU Housing Lid
CPU Housing Gasket
PCB Chassis Side Plate
Base Plate
Top Plate
Bottom Plate
Battery plate - A
Battery plate - B
Argos Mounting Plate
Charger Mounting Plate
Main Frame Pillar
Battery Pillar
Battery Pillar - B
Mounting Plate Pillar
Junction Box
Junction Box Lid
Junction Box Gasket
Main Instrument Housing Lid
PCB Chassis Bar
Compass Housing Body
Compass Housing Cap
Compass Housing Base
Lifting Eye Boss
Compass Bolt
Compass Spacer
Pressure Relief Housing
Body, Air Temperature
Gasket

Gasket
SST End Cap - Top
Top Hat - SST
DCP Antenna Tube Base
Top Hat for Buoy Tube
Lifting Bar Guide
Lifting Bar
Lifting Bar End
Bar
Top Hat Spacer
Fluxgate Mounting Plate
Protector Plate
Board Spacer 1
Board Spacer 2
Board Spacer 3
Board Spacer 4
Inclinometer Spacer
Gyreo Board Spacer
Inclinometer Support 1
Inclinometer Support 2
Anchor Point - A
Anchor Point - B
Spreader Plate
Anchor Point Bush
Anchor Point Washer
Spreader Plate Bush
Spreader Plate Washer
Handle Block
Handle Block Locator
Compass Retainer
Flashing Lamp base
Aerial mounting Plate
Housing for Aerial
Moulded Aerial Assembly

1. OVERVIEW

Blowing over the sea, the wind causes waves and currents. Accurate values of the wind stress are required for sea state forecasting and for forcing computer models of the ocean circulation. As part of this research the JRC Meteorological Team is engaged in a program of wind stress measurements.

The primary sensor used in this program has evolved from a propeller vane to a 'state of the art' Sonic anemometer. However the environment of the measurement is critical, therefore in deployment of the sensor on the measurement platform one must try to place the sensor in the best position to 'see' the turbulent air structure before it is contaminated by the presence of the platform. In the case of a ship this means the sensor is usually mounted on a high mast to windward.

The most well known of the Sonic anemometers is the Kaijo Denki. However the development by Gill Instruments of the Solent Sonic anemometer with its lower operating power has allowed the possibility of self-contained battery powered systems. After initial proving trials of the Solent Sonic anemometer on Royal Research Ship Charles Darwin (Yelland, M.J., P.K. Taylor, K.G. Birch, R.W. Pascal, and A.L. Williams, 1991: Evaluation of Solent Sonic Anemometer on RRS Darwin Cruise 43. 288, Institute of Oceanographic Sciences), it was suggested that a buoy mounted measurement system based on this sensor would be viable.

This report outlines the design criteria of the buoy, and details the hardware that was constructed to meet the specification.

Design of this hardware was also a large step for the drawing techniques used, as this was the first project within IOSDL to be designed using a Computer Aided Design package. The flexibility of this technology has enabled the production of this detailed handbook.

2. CONCEPTUAL DESIGN

The criterion for the buoy design was to provide an optimised platform which would provide the best possible exposure of the Solent sonic anemometer.

The Sonic anemometer is manufactured in two different designs, one has three support legs spaced symmetrically at 120 ° spacing and the second is an asymmetrical construction with three legs equispaced within 120 °, i.e. separated by 60 °.

The asymmetric construction was chosen, because of its 240 ° unobstructed window to the airflow. To make best use of the sensor's window it was concluded that minimisation of buoy effects would best be realised by placing the sensor on the leading edge of the buoy facing directly into the prevailing wind direction. To achieve this goal it was not considered practical to have a rotating structure mounted on the buoy because of the complexity of connecting the variety of electrical signals to the sensors, navigation aids, and Satellite aerials. The alternative configuration, which was employed, is to have a fixed structure for mounting the sensors and to orientate the buoy by the use of a wind vane.

The other sensors that are deployed on the buoy are :-

Air Temperature

Sea Surface Temperature

Propeller Wind vane anemometer

Also the data transmission aerials and navigational aids need to be deployed on the external structure, these are :-

Argos Transmitter Aerial

Meteosat Transmitter Aerial

Navigation Light

VHF navigation beacon.

2.1 Deployment Life span

The design specification for the deployment life of all the systems was 70 days. This meant that all data recording and power systems must have a life expectancy in excess of this time, to allow for the eventuality that bad weather may not allow recovery to take place on schedule.

The long term durability of the mechanical design needed to consider the problems of the waterproof sealing the equipment and wiring enclosures. To increase the robustness of these areas and prevent water ingress a policy of double sealing was considered appropriate. The implementation of this policy would mean that individual modules within the central canister i.e. Battery packs, processor unit etc., should be in watertight enclosures with waterproof connectors. All external connectors should be waterproof and themselves be covered by individual covers with glands exits for cables.

2.2 Launching and Recovery

High on the design philosophy was the problem of deployment and recovery of the buoy, which is directly linked to the vulnerability of the delicate sensors. The methods of deployment must have the goal of minimising the risk of the buoy overturning during this crucial operation. To achieve this it was concluded that the buoy must be launched, by a crane or 'A' Frame, from a central point at the top of the Tower. Hardware Configuration

3. BUOY IMPLEMENTATION

3.1 Hardware design

A discus buoy hull with quadrapod tower was selected as being the optimum form of construction to meet the sensor and electronic systems requirements. This configuration provided adequate space for the 200kg payload, whilst maintaining a low centre of gravity.

The tower design enabled the sensor annular ring to be of a rigid construction, minimising vibration, and provided a means of access to the sensors for servicing whilst the buoy was deployed.

The central core of the buoy hull is fabricated in aluminium, with a 'cotton reel' cross section, to which is bonded a 3 M diameter flotation collar. A 15mm elastomer coating is applied over the flotation collar to provide protection and a non slip upper deck surface.

The tower is bolted to the hull via pads which are welded to the top surface of the central 'cotton reel'. Adjacent to each of the four tower legs are tubes bonded vertically through the flotation collar to allow sensors to be mounted through the hull into the near surface water.

The instrumentation canister, which is mounted within the central 'cotton reel', contains the (multi)processor unit, satellite transmitters, compass, DC-DC Converters and six lithium battery packs. Each individual unit is housed in a waterproof housing, connected by inter-unit cables with sealed environmental connectors, giving a high degree of protection against water ingress.

The sensors, satellite aerals, and navigational aids are mounted on the 1.5m diameter ring on the top of the quadrapod tower. Each of the devices is fitted with a quick release clamp to facilitate easy replacement, whilst the buoy is deployed, in event of failure or damage. External cabling on the tower is minimised by use of a single multi-core cable for all sensor signals. This cable connects between the central instrument housing and a mast head junction box.

Orientation of the buoy into the wind is by dual vanes mounted on one of the tower legs. The vanes are of a wedge cross section, extending from deck level to the underside of the tower annular instrumentation ring.

The technique of launching from the central point at the top of the Tower would require the heavy lifting mechanism to be position within the ring of sensors and aerals at the moment of release from the ship. This raised the high possibility of damage to any of the sensors and aerals. To remove the lifting mechanism from this hazardous area a retractable deployment bar was incorporated into the design. The retractable lifting bar, which is 1 M long, is mounted at the top of the tower with four lifting strops, made of polyprop rope, shackled to the central buoy flotation unit. Under load, whilst the buoy is being deployed the bar slides upwards to the maximum extension as determined by the length of the strops. At the instant that buoy is released, from the lifting mechanism, the bar slides downwards under gravity out of the sensor area. This technique allows a higher chance of deployment without damage and once deployed does not cause an obstruction to wind flow over the sensors.

3.2 Power Supplies

The power for all the buoy systems is provided from up to six battery housings each containing two 24V,125 Ampere-Hour packs. A power bus is generated by connecting the battery packs in parallel, using Schottky diodes, enabling the efficient use of battery power and flexibility in deployment duration.

Each of the Systems is powered via dedicated DC to DC converters. By the provision of power supply isolation between sub systems, the overall system reliability is enhanced by minimising the risks to all systems caused by a failure in one component area.

We would like to acknowledge the financial support provided by ARE Portland, and the advice from Mark Carson with respect to the overall Buoy design and buoyancy materials of the hull.

4. RESULTS FROM THE FIRST DEPLOYMENT

The first scientific deployment of was from the Royal Research Ship Charles Darwin during a cruise to the Faeroes area during september 1991. the buoy was launched in good conditions without damage to any of the instrumentation The wind speed was about 8m/s which steadily increased to 15m/s during the day. At first light the following morning the buoy was found to be overturned and was recovered. Damage to the hull and tower structure was minimal but highlighted the well known problem of stability of a Discus buoy.

4.1 Buoy Modelling Tests

As part of the original buoy design Computer Modelling was carried out to check the viability of the design. The figures which were used for this work was based on estimated design dimensions and weights. Subsequent to the first deployment the implemented design was found to be significantly higher in weight and therefore the original modelling was not representative of the constructed buoy. Further analytical work was carried out, running the Computer Model with the actual buoy dimensions and weights. This showed that ,as had happened in practice, the buoy would capsize in the conditions experienced on the first deployment. This was good because it confirmed our faith in the predictions of the Modelling.

Alterations were suggested to :-

- 1) increase the freeboard and diameter of the buoyancy
- 2) reduce the turning moment about the centre of buoyancy by the reduction of weight ,where possible, on the tower and sensor clamps.

The changed design was re-run on the Computer Model and showed significant improvements in stability.

5. BUOY SPECIFICATION

5.1 Mechanical Hardware Specification

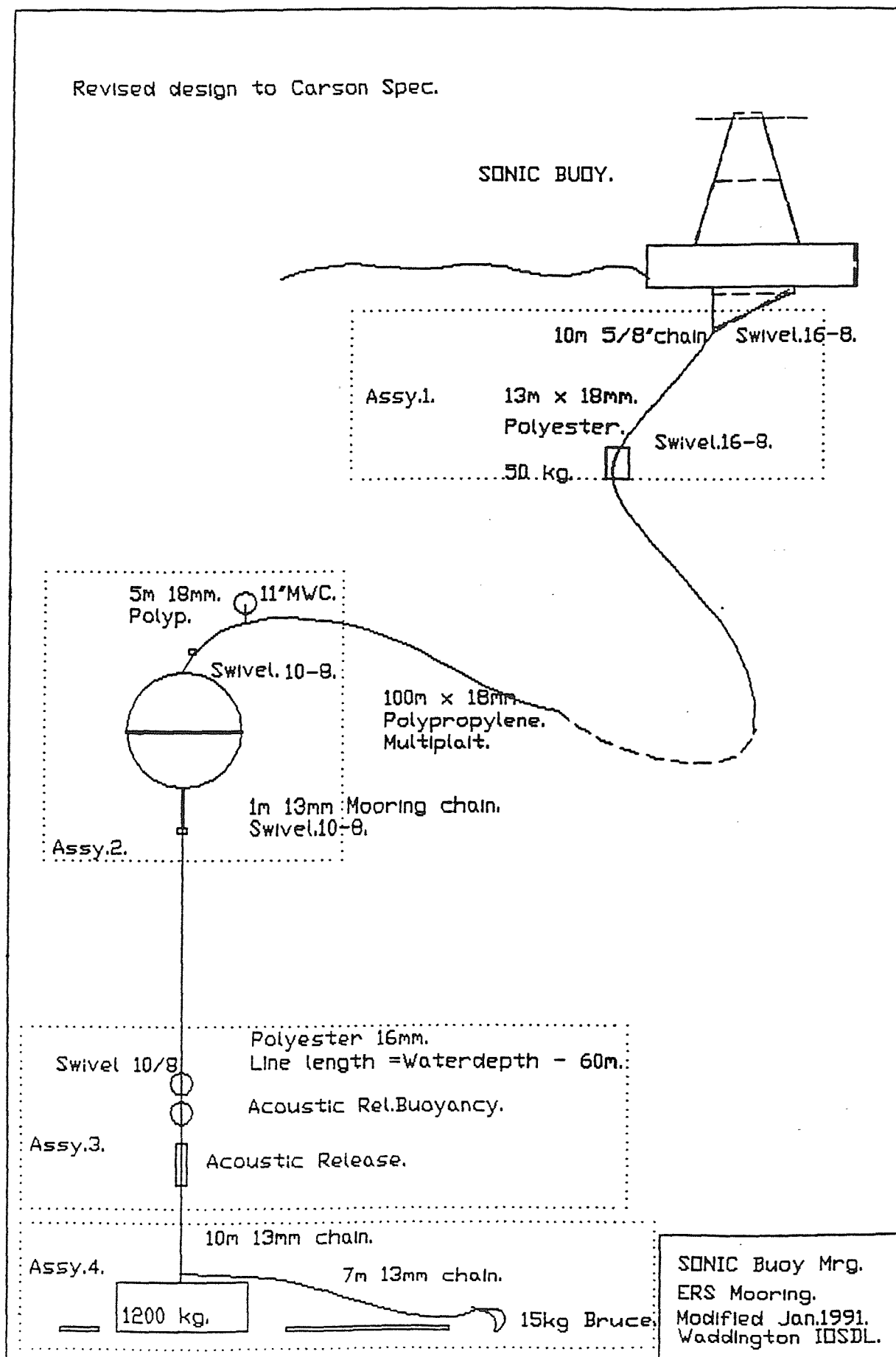
Diameter	3 Metres
Overall height	3.8 Metres - including sensors
Height above waterline	2.5 Metres to annular ring 3.3 Metres to top of sensors
Weight in air	938 Kg
Weight Tower + Clamps+ Junction Box+ Lifting Bar	108 Kg
Hull with Central Cannister	620 Kg
Hull with Central Cannister + contents	830 Kg

5.2 Payload

	Weight	Capacity
Battery Pack(s)	23 Kg per housing	Two 24V , 125 Ampere hours per housing
Flashing Light BatteryPack	15Kg	18V, 112 Ampere hours
Electronic Systems	8 Kg	MultiMet Sonic DSP PC Formatter DSP PC
Transmitter Box	28Kg	Argos/Meteosat
Buoy Motion Monitor	12 Kg	BMP DSP PC

5.3 Mooring Design

Revised design to Carson Spec.



5.4 Electronic Systems specification

5.4.1 Mean Meteorological Measurements - MultiMet.

RCA Mircoboard CD1802 BCE, with 8Mb Eprom data storage

Sampling frequency - 1 Hz

Processing - Calculating '1 Min ute' means

Sensors	System Measurements	Number	Manufacturer
Air temperature	Range 0 - 35 °C Accuracy 0.1°C Resolution ± 0.005 °C	2 off	IOS
Sea Surface Temperature	Range 0 - 35 °C Accuracy 0.1 °C Resolution ± 0.005	2 off	IOS
Wind Speed &	Range 0-40 m/sec Accuracy 0.1m/sec Resolution 0.001m/sec	2 Off	R.M.Young
Direction	Range 0 - 355 ° Accuracy 0.08 ° Resolution		
Compass	Range 0-360 ° Resolution 1.387 °	1 Off	DigiCourse

5.4.2 Wind Stress system.

Single Board DSP 286 with 8M Bytes Eprom data storage

Sampling Frequency - 21 Hz

Processing - 15 Section s of 1024 points, using software FFT to compute Wind Speed Spectrum

Sensors	Solent Sonic Anemometer Range 0 - 60 M/sec Accuracy <30m/sec $\pm 1.5\%$, >30m/sec $\pm 3\%$	1 Off	Gill Research
	Compass Range 0-360° Resolution 1.387	1 Off	DigiCourse

5.4.3 Satellite Data Formatter to Argos & Meteosat.

Single Board DSP GCAT with 4M Bytes Flash Eprom data storage on PCMCIA Card

Continuously monitors output data streams from MultiMet and Wind Stress systems.

Processing - Averages '1 minute Mean' MultiMet datasets over period corresponding to Sampling period of Wind Stress . Formats data in preparation for sending via Argos and Meteosat

Argos		1 Off	Argos/WS Oceans
	Position Accuracy		
	Data Transmission rate ~ 4hrs (satellite visibility dependant)		
	Data capacity 32 bytes * 8 (Multiplexed over 8 consecutive transmissions)		
Meteosat	DCP	1 Off	Hays Space Technology
	Data Transmission Rate, Hourly		
	Data capacity 256 Bytes		

5.4.4 Buoy Motion Analysis System.

Sensors	3 Components Accelerometer	1 Off	SE Systems AMD
	Solid State Rate Gyro	3 Off	Murata Gyrostars
	Pitch Inclometers	1 Off	Penny & Giles
	Roll Inclometers	1 Off	Penny & Giles
	3 Axis fluxgate compass	1 Off	Thorn EMI
	Wind Speed&Direction	1 Off	RM Young

Single Board DSP GCAT with 4M BytesFlash Eprom data storage on PCMCIA Card

Sampling Frequency - 4 Hz

Processing - The initiation of a record would be determined by whether any of the following criteria were satisfied :-

Wind Speed	Number of (10 min) Records
0 - 5 m/s Mean Wind speed	5
5-10 m/s Mean Wind speed	5
10-15 m/s Mean Wind speed	10
15-20 m/s Mean Wind speed	10
>20 m/s Mean Wind speed	20

6. MECHANICAL DRAWINGS

6.1 Drawing List

DETAIL No	PARTS TO MANUFACTURE		MATERIAL	FINISH	No OFF		REMARKS
	DRAWING TITLE				PER UNIT	TOTAL	
1	TOP FRAME		ALUMINIUM ALLOY		1		
2	BUOY		POLYETHYLENE FOAM & GRP		1		
3							
4	TOP RING		ALUMINIUM ALLOY		1		SEE DRAWING IOS 5295/3
5	CENTRE INSTRUMENT HOUSING		ALUMINIUM ALLOY		1		
6	YOUNG'S WIND MONITOR		VARIOUS		2		OUTLINE DRAWING
7	AIR TEMPERATURE PROBE		VARIOUS		2		OUTLINE DRAWING
8							
9							
10	BUOY PIPE		ALUMINIUM ALLOY		4		
11							
12							
13	ASSYMETRIC ANEMOMETER CLAMP		ALUMINIUM ALLOY		1		
14	TOP RING ASSEMBLY		VARIOUS		1		
15							
16							
17	FLANGE TUBE		ALUMINIUM ALLOY		1		
18							
19	BATTERY BOX		ALUMINIUM ALLOY		6		
20	BATTERY BOX LID		ALUMINIUM ALLOY		6		
21	YOUNG'S ANEMOMETER CLAMP		ALUMINIUM ALLOY		2		
22	ANCHOR FRAME		MILD STEEL		1		
23	TOP RING CLAMP		ALUMINIUM ALLOY		8		
24							
25	60mm CLAMP		ALUMINIUM ALLOY		2		

ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS
1	5-1-83	NEW LIST	4			7			10		
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3			6			9			12		

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TITLE
SONIC BUOY ASSEMBLY

WORKSHOP DETAIL LIST FOR
C. 5597

COMPILED BY N. BURNS SHEET No. 1 OF

PARTS TO MANUFACTURE		MATERIAL	FINISH	No OFF		REMARKS
DETAIL No	DRAWING TITLE			PER UNIT	TOTAL	
26	ANGLE-A	ALUMINIUM ALLOY		3		
27	ANEMOMETER BASE TUBE	ALUMINIUM ALLOY		1		
28	DCP ANTENNA TUBE BASE	ALUMINIUM ALLOY		2		
29	CLAMP BOLT	STAINLESS STEEL		12		
30	JB END CAP-BUOY	ALUMINIUM ALLOY		4		
31	JB TUBE-BUOY	ALUMINIUM ALLOY		4		
32	TEMPERATURE SENSOR MOUNTING	ALUMINIUM ALLOY		2		
33	SPACER RING	RIGID PVC		2		
34	BRACKET	ALUMINIUM ALLOY		1		
35	CLAMP	ALUMINIUM ALLOY		2		
36						
37						
38	ANEMOMETER EXTENSION TUBE	ALUMINIUM ALLOY		2		
39	FLANGE	ALUMINIUM ALLOY		2		
40	END CAP	ALUMINIUM ALLOY		2		
41	TUBE	ALUMINIUM ALLOY		2		
42	PLATE	ALUMINIUM ALLOY		2		
43	TUBE XENON	ALUMINIUM ALLOY		1		
44	TUBE RF BEACON	ALUMINIUM ALLOY		1		
45	BODY SEA TEMPERATURE SENSOR	STAINLESS STEEL		2		
46	INSULATOR AIR TEMPERATURE SENSOR	NYLATRON		2		
47	MASTHEAD JB	ALUMINIUM ALLOY		1		
48	MASTHEAD JB LID	ALUMINIUM ALLOY		1		
49	MASTHEAD JB GASKET	SYNTHETIC RUBBER		1		
50	TOP HAT FOR CONNECTOR SERIES 5	POLYPROPYLENE		1		

ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS
1	5-1-83	NEW LIST	4			7			10		
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3			6			9			12		

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SONIC BUOY ASSEMBLY								C. 5597			
								COMPILED BY <i>N. J. B. JONES</i>		SHEET No. 2 OF	

PARTS TO MANUFACTURE		MATERIAL	FINISH	No OFF		REMARKS
DETAIL No	DRAWING TITLE			PER UNIT	TOTAL	
76	BATTERY PILLAR-B	ALUMINIUM ALLOY		2		
77	MOUNTING PLATE PILLAR	ALUMINIUM ALLOY		8		
78	JUNCTION BOX	ALUMINIUM ALLOY		1		
79	JUNCTION BOX LID	ALUMINIUM ALLOY		1		
80	JUNCTION BOX GASKET	NEOPRENE		2		
81	MAIN INSTRUMENT HOUSING LID	ALUMINIUM ALLOY		1		
82	PCB CHASSIS BAR	ALUMINIUM ALLOY		4		
83	COMPASS HOUSING BODY	ALUMINIUM ALLOY		1		
84	COMPASS HOUSING CAP	ALUMINIUM ALLOY		1		
85	COMPASS HOUSING BASE	ALUMINIUM ALLOY		1		
86	LIFTING EYE BOSS	ALUMINIUM ALLOY		4		
87	COMPASS BOLT	STAINLESS STEEL		4		
88	COMPASS SPACER	RIGID PVC		12		
89	PRESSURE RELIEF HOUSING	ALUMINIUM ALLOY		1		
90	BODY, AIR TEMPERATURE	STAINLESS STEEL		2		
91	GASKET	SYNTHETIC RUBBER		1		
92	GASKET	SYNTHETIC RUBBER		2		
93						
94	SST END CAP-TOP	ALUMINIUM ALLOY		1		
95						
96	TOP HAT-SST	POLYPROPYLENE		1		
97	DCP ANTENNA TUBE BASE	ALUMINIUM ALLOY		2		
98						
99						
100	TOP HAT FOR BUOY TUBE	POLYPROPYLENE		2		

ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS
1	6-1-93	NEW LIST	4			7			10		
2			5			8			11		
3			6			9			12		

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SONIC BUOY ASSEMBLY

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BT/MA/92 JULY 91

PARTS TO MANUFACTURE		MATERIAL	FINISH	No OFF		REMARKS
DETAIL No	DRAWING TITLE			PER UNIT	TOTAL	
51	TOP HAT FOR CONNECTOR SERIES 4	POLYPROPYLENE		2		
52	TOP HAT FOR CONNECTOR SERIES 3	POLYPROPYLENE		2		
53	ANEMOMETER BASE ADAPTER	ALUMINIUM ALLOY		1		
54	DCPA BASE ADAPTER	ALUMINIUM ALLOY		2		
55	-NEMOMETER TUBE ADAPTER PLUG	ALUMINIUM ALLOY		2		
56	PCB BRACKET	ALUMINIUM ALLOY		1		
57	COVER FOR CONNECTOR SERIES 3	POLYPROPYLENE		1		
58						
59						
60	METEOSAT BOX	ALUMINIUM ALLOY		1		
61	METEOSAT BOX LID	ALUMINIUM ALLOY		1		
62	METEOSAT BOX GASKET	NEOPRENE		1		
63	CPU HOUSING BOX	ALUMINIUM ALLOY		1		
64	CPU HOUSING LID	ALUMINIUM ALLOY		1		
65	CPU HOUSING GASKET	NEOPRENE		1		
66	PCB CHASSIS SIDE PLATE	ALUMINIUM ALLOY		2		
67	BASE PLATE	ALUMINIUM ALLOY		1		
68	TOP PLATE	ALUMINIUM ALLOY		1		
69	BOTTOM PLATE	ALUMINIUM ALLOY		1		
70	BATTERY PLATE-A	RIGID PVC		1		
71	BATTERY PLATE-B	RIGID PVC		1		
72	ARGOS MOUNTING PLATE	RIGID PVC		1		
73	CHARGER MOUNTING PLATE	RIGID PVC		1		
74	MAIN FRAME PILLAR	ALUMINIUM ALLOY		2		
75	BATTERY PILLAR-A	ALUMINIUM ALLOY		2		

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C. 5597

COMPILED BY

N. J. J. J.

SHEET No. 3 OF

ESTIMATED AUGUST 1991

PARTS TO MANUFACTURE		MATERIAL	FINISH	No OFF		REMARKS
DETAIL No	DRAWING TITLE			PER UNIT	TOTAL	
101	LIFTING BAR GUIDE	ALUMINIUM ALLOY		1		
102	LIFTING BAR	STAINLESS STEEL		1		
103	LIFTING BAR END	STAINLESS STEEL		2		
104	BAR	STAINLESS STEEL		2		
105	TOP HAT SPACER	POLYPROPYLENE		2		
106	FLUXGATE MOUNTING PLATE	ALUMINIUM ALLOY		1		
107	PROTECTOR PLATE	RIGID PVC		1		
108	BOARD SPACER 1	ALUMINIUM ALLOY		3		
109	BOARD SPACER 2	ALUMINIUM ALLOY		3		
110	BOARD SPACER 3	ALUMINIUM ALLOY		3		
111	BOARD SPACER 4	ALUMINIUM ALLOY		3		
112	INCLINOMETER SPACER	ALUMINIUM ALLOY		3		
113	GYRO BOARD SPACER	ALUMINIUM ALLOY		4		
114	INCLINOMETER SUPPORT 1	ALUMINIUM ALLOY		1		
115	INCLINOMETER SUPPORT 2	ALUMINIUM ALLOY		1		
116	ANCHOR POINT-A	MILD STEEL		1		
117	ANCHOR POINT-B	MILD STEEL		1		
118	SPREADER PLATE	MILD STEEL		1		
119	ANCHOR POINT BUSH	POLYPROPYLENE		2		
120	ANCHOR POINT WASHER	POLYPROPYLENE		2		
121	SPREADER PLATE BUSH	POLYPROPYLENE		3		
122	SPREADER PLATE WASHER	POLYPROPYLENE		3		
123	HANDLE BLOCK	POLYPROPYLENE		1		
124	HANDLE BLOCK LOCATER	POLYPROPYLENE		1		
125	COMPASS RETAINER	POLYPROPYLENE		1		

ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS
1	6-1-83	NEW LIST	4			7			10		
2			5			8			11		
3			6			9			12		

INSTITUTE OF OCEANOGRAPHIC SCIENCES-DEACON LABORATORY									
WORMLEY, GODALMING, SURREY, GU8 5UB									
TITLE						WORKSHOP DETAIL LIST FOR			
SONIC BUOY ASSEMBLY						C. 5597			
COMPILED BY <i>N. J. J. J.</i>						SHEET No. 5 OF			

DETAIL No	PARTS TO MANUFACTURE		MATERIAL	FINISH	No OFF		REMARKS
	DRAWING TITLE				PER UNIT	TOTAL	
126	FLASHING LAMP BASE		POLYPROPYLENE		1		
127	AERIAL MOUNTING PLATE		ALUMINIUM ALLOY		1		
128	HOUSING FOR AERIAL		NYLATRON		1		
129	MOULDED AERIAL ASSEMBLY		POLYPROPYLENE		1		
130							
131							
132							
133							
134							
135							
136							
137							
138							
139							
140							
141							
142							
143							
144							
145							
146							
147							
148							
149							
150							

ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS	ISSUE No	DATE	REMARKS
1	2-2-93	NEW LIST	4			7			10		
2			5			8			11		
3			6			9			12		

INSTITUTE OF OCEANOGRAPHIC SCIENCES-DEACON LABORATORY
WORMLEY, GODALMING, SURREY, GU8 5UB

TITLE
SONIC BUOY ASSEMBLY

WORKSHOP DETAIL LIST FOR
C. 5597
COMPILED BY *N. HARRIS* SHEET No. 6 OF

6.2 Drawings

DRAWING No. I.O.S./C5597	DETAIL G.A.	THIRD ANGLE PROJECTION	FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.			
SIDE ELEVATION.						
REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE						
MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 1m.m.				
CHECKED	VARIOUS.	.X = ± .4m m.	AMENDMENT	ISSUE	DATE	AMENDMENT
TRACED	No. OFF PER UNIT 1.	.XX = ± .1m.m.	INSTITUTE OF OCEANOGRAPHIC SCIENCES			
DRAWN	No. OFF	DO NOT SCALE	TITLE	SONIC BUOY	DRAWING No.	DETAIL
B.H.	DIMENSIONS IN m.m.	SCALE N.T.S.	I.O.S./C5597 G.A.			
SIZE B						

0/100 7/10

TRACED

\$17F

5

ON A.R.P.

①

Vol. 62.8 (1)

LIVE LEADING 1400 lbs.

LIVE LEADING 1400 lbs.

MAJESTAL	PROTECTIVE PUNISH
----------	-------------------

SEE NOTES	TOP SURFACE OF
-----------	----------------

DO NOT WRITE IN THESE SPACES

NO. OFF	TOTAL
---------	-------

PER UNIT	%	NO. OF
100	100	100
90	90	90
80	80	80
70	70	70
60	60	60
50	50	50
40	40	40
30	30	30
20	20	20
10	10	10
0	0	0

DIMENSIONS IN mm SCALE N.T.S.

TOLERANCE EXCEPT WHERE SPECIFIED		
-------------------------------------	--	--

[illegible]

AMENDMENT	ISSUE

INSTITUTE OF OCEANOGRAPHY

DO NOT SCALE	DATE	REPLY
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[illegible]

	ISSUE	DATE
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1,	3-1-0
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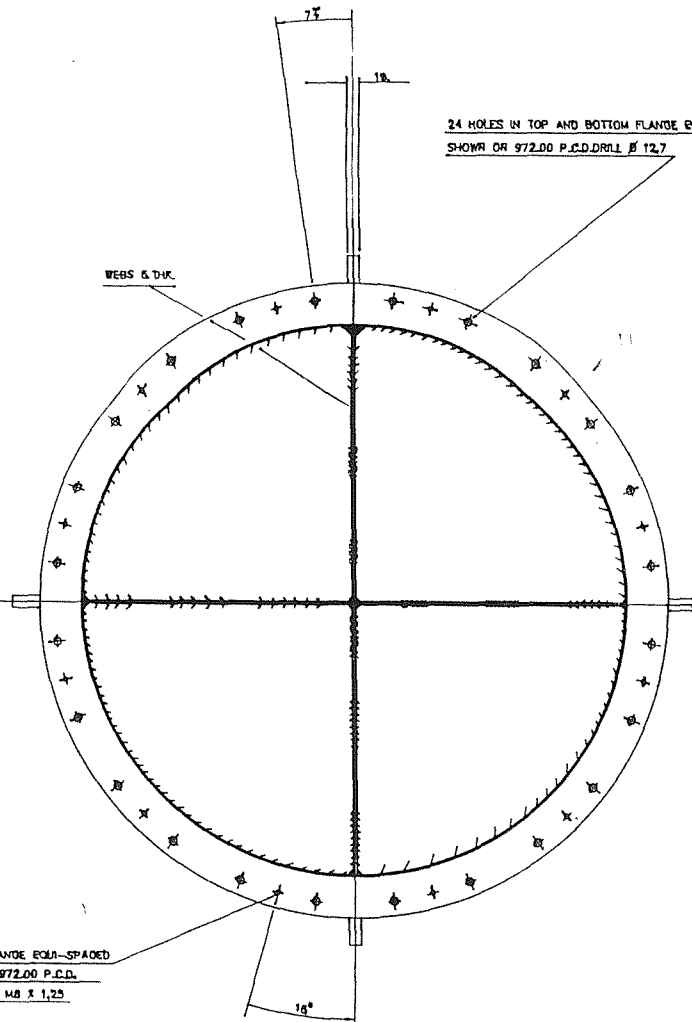
ANCES

DRAWING No. 105 (CST) DETAIL 2

4015, 7 1/2 1/2 1/2

Downloaded from <http://ajphaphysocpharm.sagepub.com> at 10:06 11 May 2015

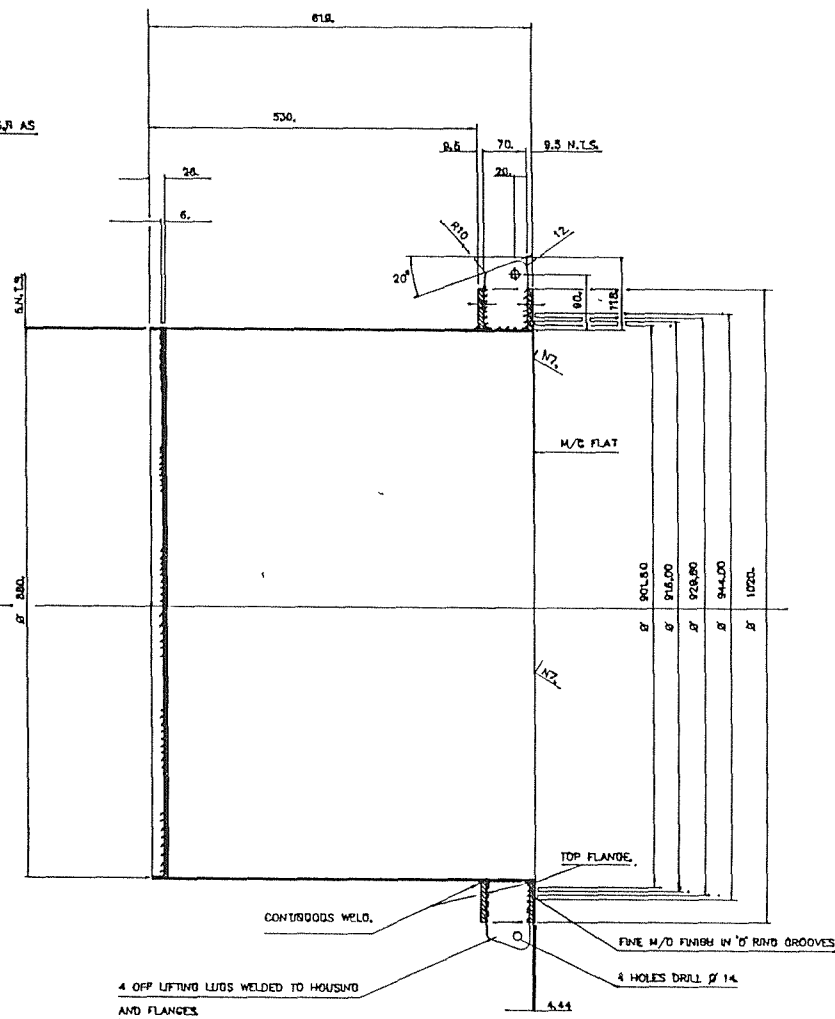
USED ON



12 HOLES ON TOP FLANGE EGD-SPACED
POSN AS SHOWN ON 972.00 P.C.D.
DRILL Ø 8.8 AND TAP M8 x 1.25

NOTES - WELD WHERE THIS:

BOX TO BE WATER-TIGHT



4 OFF LIFTING LUGS WELDED TO HOUSING
AND FLANGES

DATE P/T
CHECKED
DESIGNED
DRAWN

SIZE A

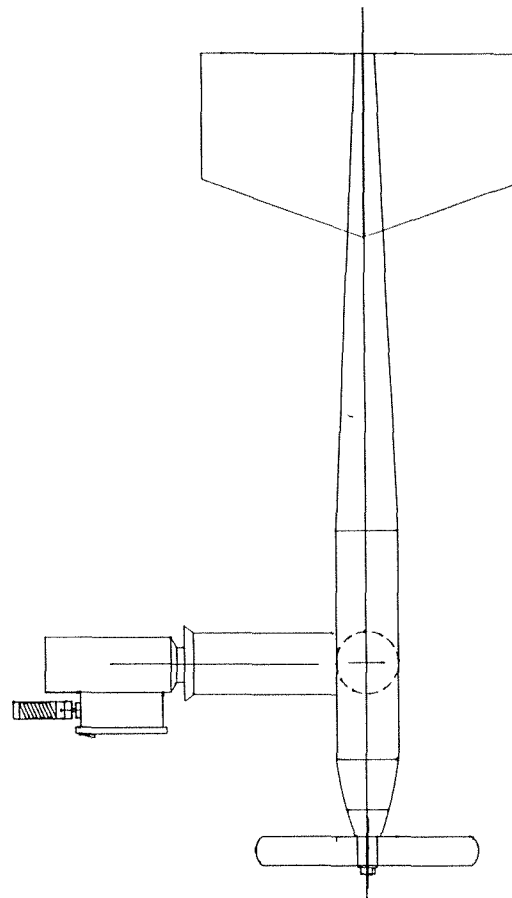
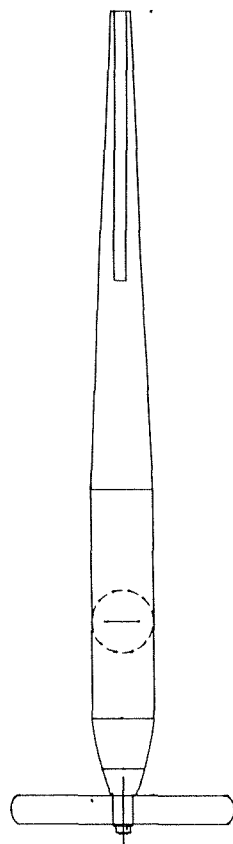
REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE															
MATERIAL AL. ALLOY HE-30-WP.	PROTECTIVE FINISH ANODISE NATURAL CHROMIC ACID.		TOLERANCE EXCEPT WHERE OTHERWISE STATED $\pm .001$ FRACTIONS - AMPL XX - $\pm .001$ mm				Ø RING GROOVES ADDED		2	13/1/91					
			ASSEMBLY				ISSUE		DATE	AMENDMENT	ISSUE	DATE			
							DEFINITION		15/1/91						
INSTITUTE OF OCEANOGRAPHIC SCIENCES															
NO. OF PER UNIT				L		TOTAL NO. OF		TITLE							
DIMENSIONS IN mm.				SCALE		R.T.S.		DO NOT SCALE		CENTRE INSTRUMENT HOUSING.		DRAWING No. L.O.S./06597.		DETAIL B.	

DRAWING No. I.O.S./C5597
 DETAIL 6.

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

B.H.

SIZE C

MATERIAL VARIOUS.	PROTECTIVE FINISH
No.OFF PER UNIT	TOTAL No.OFF
DIMENSIONS IN m.m.	SCALE N. T. S.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE OTHERWISE STATED:

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	6/9/91
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE YOUNG,S WIND MONITOR.				DRAWING No. I.O.S./C5597 DETAIL 6.	

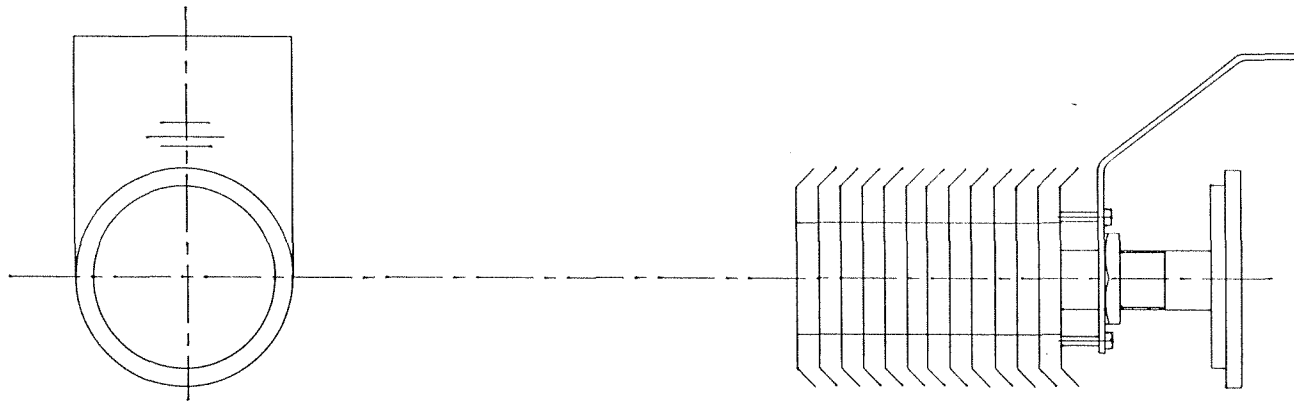
DRAWING No.
I.O.S./C5597

DETAIL
7.

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. w/s

CHECKED

TRACED

DRAWN

B.J.L.

MATERIAL

VARIOUS.

PROTECTIVE FINISH

No. OFF

PER UNIT

TOTAL

No. OFF

DIMENSIONS IN m.m.

SCALE N.T.S.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

CERTIFIED

ISSUE

DATE

1

6/9/81

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

AIR TEMPERATURE PROBE.

DRAWING No.

I.O.S./C5597

DETAIL

7.

SIZE C

DRAWING No.
I.O.S./C5597

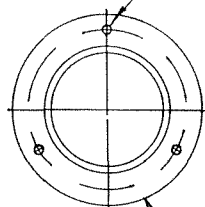
DETAIL
10

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON

3 HOLES ON 96.00 P.C.D.
EQUI-SPACED DRILL $\varnothing 5$
X 11 DEEP TO DRILL PT
AND TAP M6 X 1.



BOTH ENDS SIMILAR.

$\varnothing 115.0$

$\varnothing 76.2$

4.06

12.7 ($\frac{1}{2}$)

CONTINUOUS WELD
BOTH ENDS.

12.7 ($\frac{1}{2}$)

534.

O/No. W/S

CHECKED

TRACED

DRAWN

MATERIAL
AL ALLOY,
HT-30-WP.
HP-30-WP.

No. OFF
PER UNIT 4.

DIMENSIONS IN m.m.

PROTECTIVE FINISH
ANODISE NATURAL
CHROMIC ACID.

TOTAL
No. OFF

SCALE N.T.S.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED: ± 1 m.m.

.X = $\pm .4$ m.m.

.XX = $\pm .1$ m.m.

DO NOT SCALE

AMENDMENT

ISSUE

DATE

96.00 WAS 115.00

AMENDMENT

CERTIFIED

2

4/2/81

ISSUE

DATE

1

9/12/80

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE
BUOY PIPE

DRAWING No.
I.O.S./C5597

DETAIL
10.

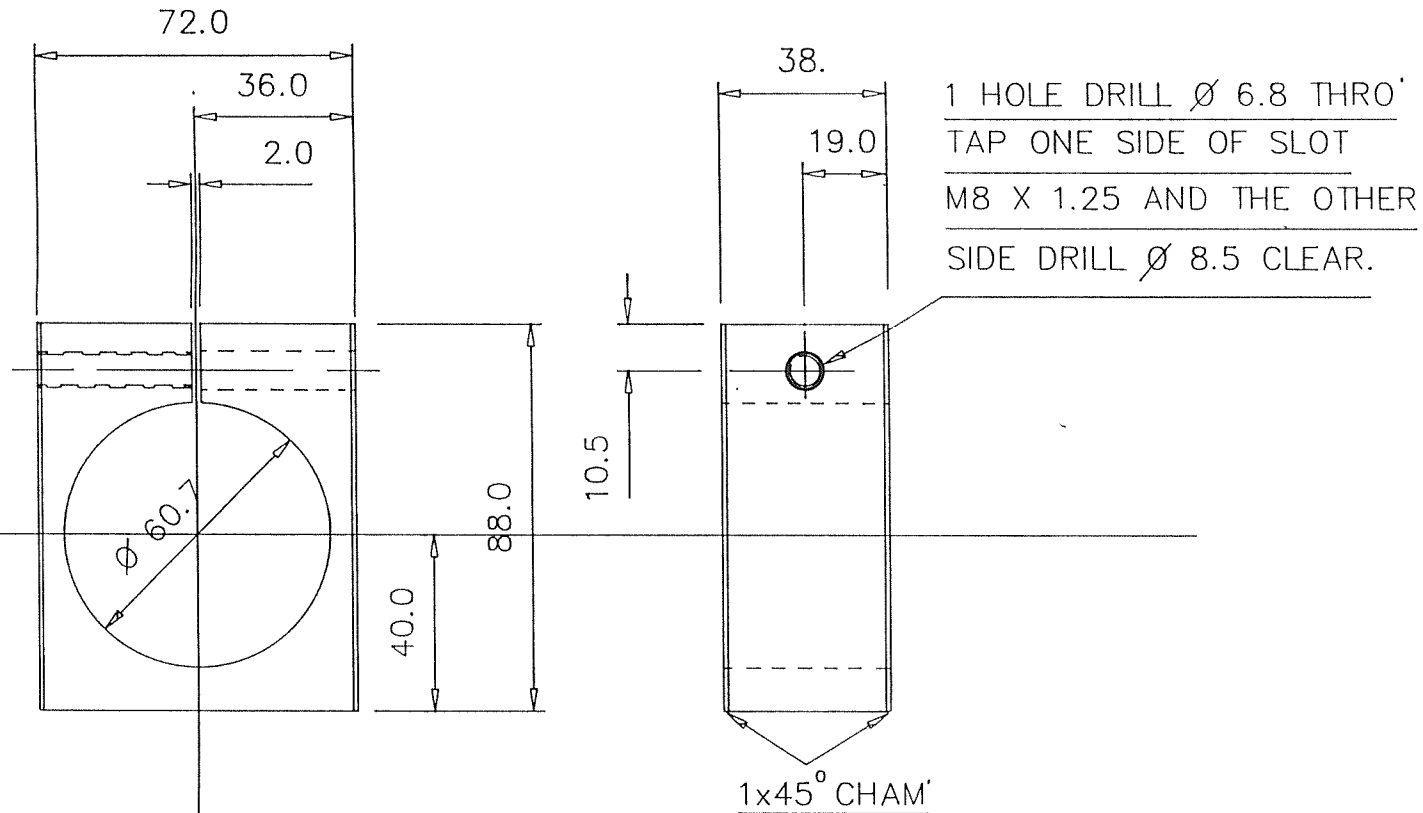
SIZE D

DRAWING No. I.O.S./C5597. DETAIL 13.

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



WELD TO DETAIL 26.

O/No. W/S

CHECKED

TRACED

DRAWN

SIZE D

MATERIAL
AL ALLOY.
HE-30-WP.

PROTECTIVE FINISH
SEE DETAIL 26

No. OFF
PER UNIT 1.

TOTAL
No. OFF

DIMENSIONS IN m.m.

SCALE N.T.S.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED: ± 0.1 m.m.

.X = ± 0.4 m.m.

.XX = ± 0.1 m.m.

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	17/12/90.

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE ASSYMETRIC ANEMOMETER CLAMP.

DRAWING No.
I.O.S./C5597.

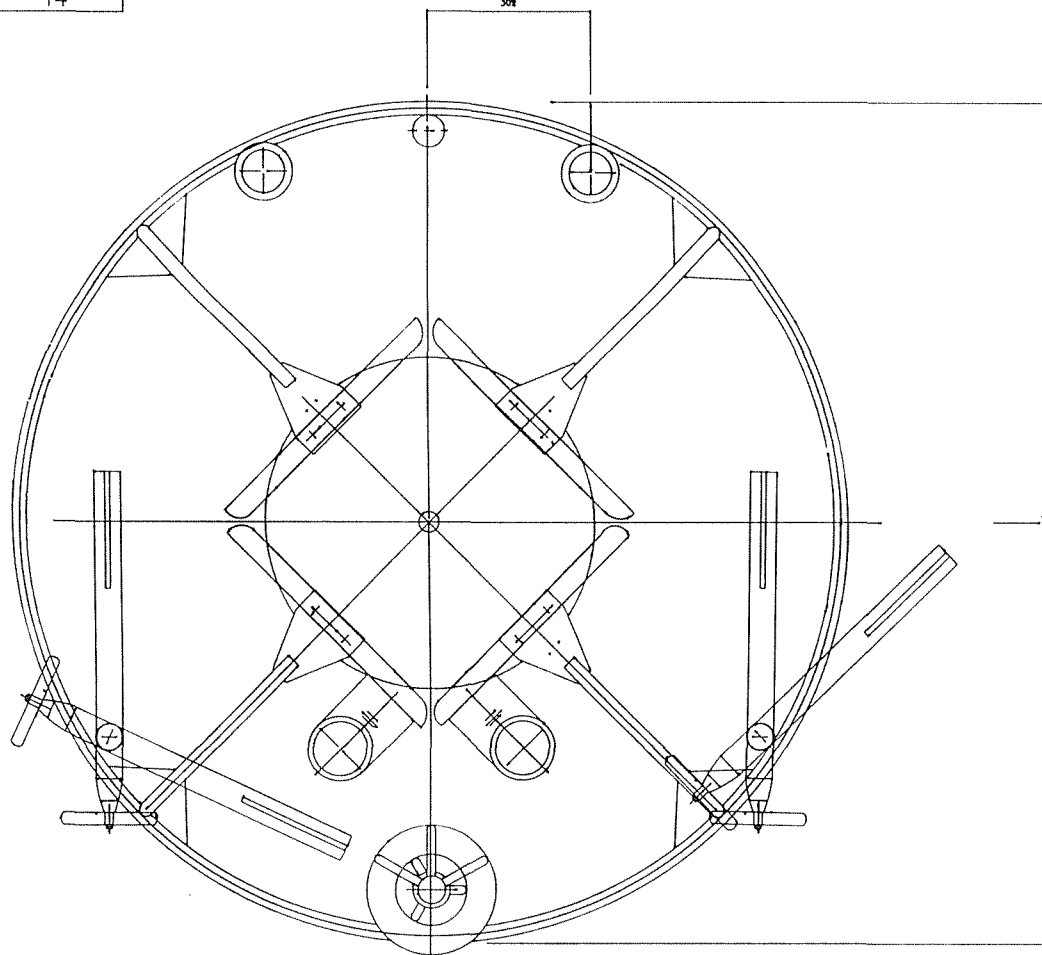
DETAIL
13.

DRAWING No. I.O.S./C5597
DETAIL 14

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE.

O/No. W/S

CHECKED

TRACED

DRAWN

B.H.

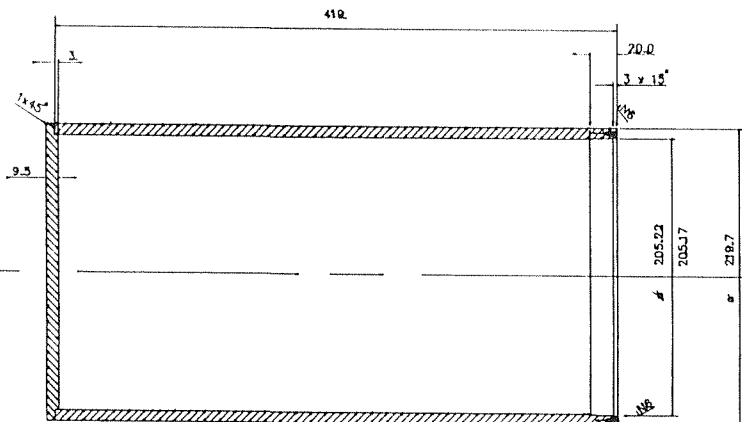
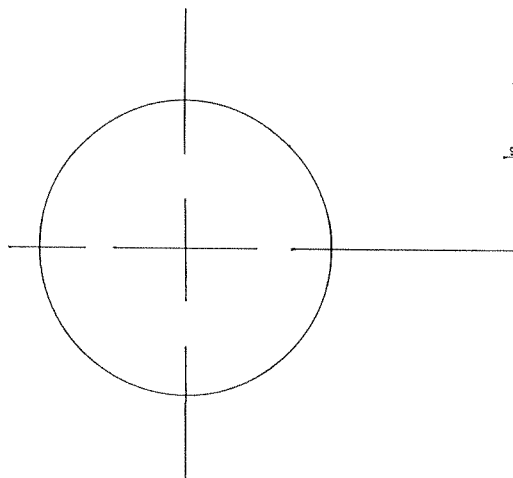
SIZE C

MATERIAL VARIOUS.	PROTECTIVE FINISH
No.OFF PER UNIT	TOTAL No.OFF
DIMENSIONS IN m.m.	SCALE N.T.S.

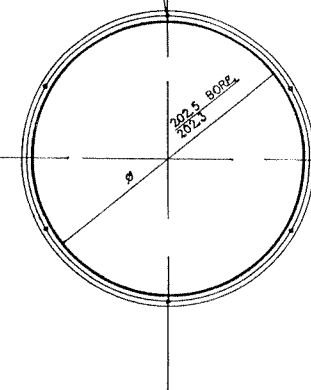
TOLERANCE EXCEPT WHERE OTHERWISE STATED:
DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT CERTIFIED	ISSUE	DATE
				1.	6/9/91
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE TOP RING ASSY.			DRAWING No. I.O.S./C5597 DETAIL 14		

USED ON



6 HOLES EQUI-SPACED ON 212.41 P.C.D.
DRILL 2.5 X 15 DEEP TO DRILL PT
AND TAP M3 X 0.5



NOTE: -WELD WHERE THUS: - 
WELD TO BE WATER-TIGHT.

O/No. W/S

CHECKED

TRACED

DRAWN

SIZE D

MATERIAL
AL ALLOY
HT-30-WP.

No.OFF
PER UNIT 1.
DIMENSIONS IN m.m.

PROTECTIVE FINISH
ANODISE NATURAL
CHROMIC ACID.

TOTAL
No.OFF 6.
SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

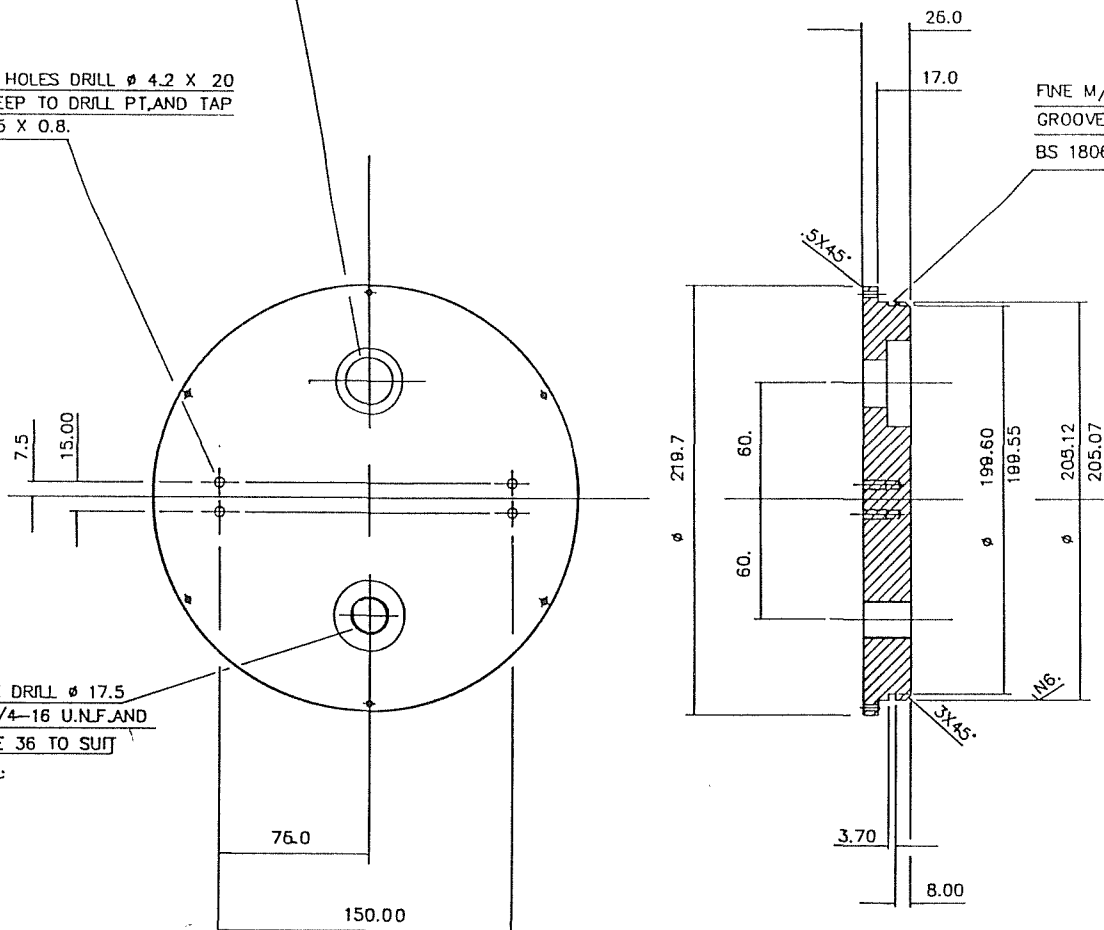
TOLERANCE EXCEPT WHERE
OTHERWISE STATED: ± 1mm
20±.4mm
30±.1mm

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	2/4/91
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE BATTERY BOX			DRAWING No. I.O.S./ C5597		
			DETAIL 19.		

6 HOLES EQUI-SPACED ON 212.41
P.C.D. DRILL ϕ 3.3.

FINE M/C FINISH IN O RING
GROOVE TO CONFORM TO
BS 1806.



'O' RING RM1995-30.

NOTE:--MANUFACTURE IN CONJUNCTION WITH DETAIL 19.(MAY BE OVAL).

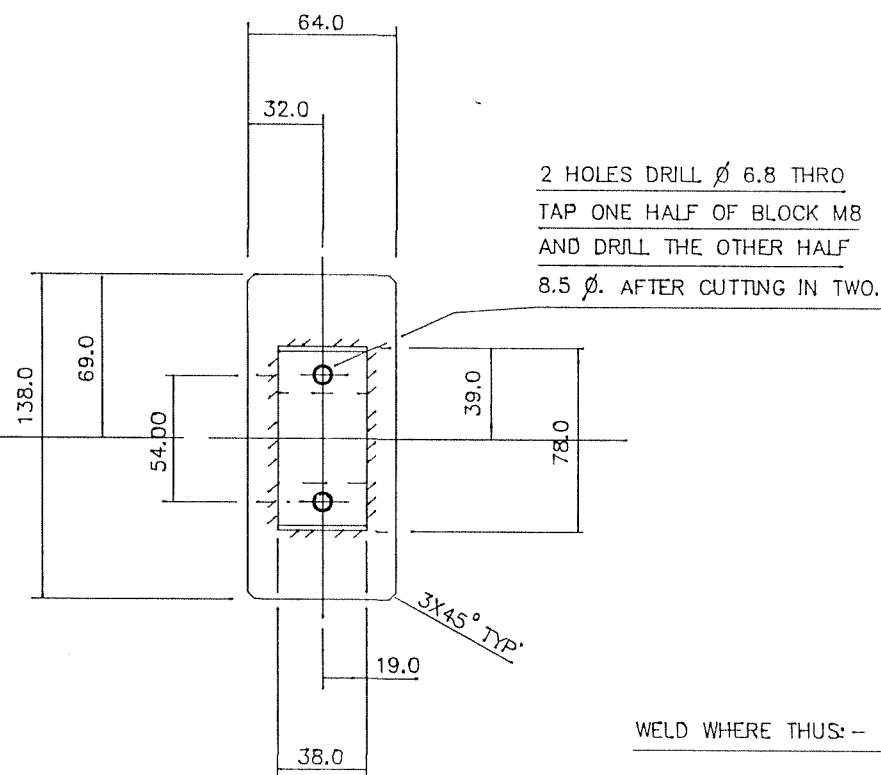
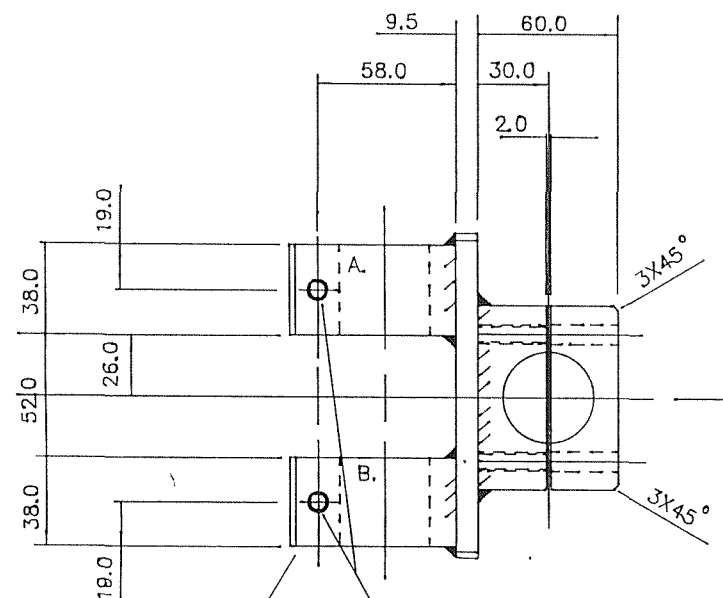
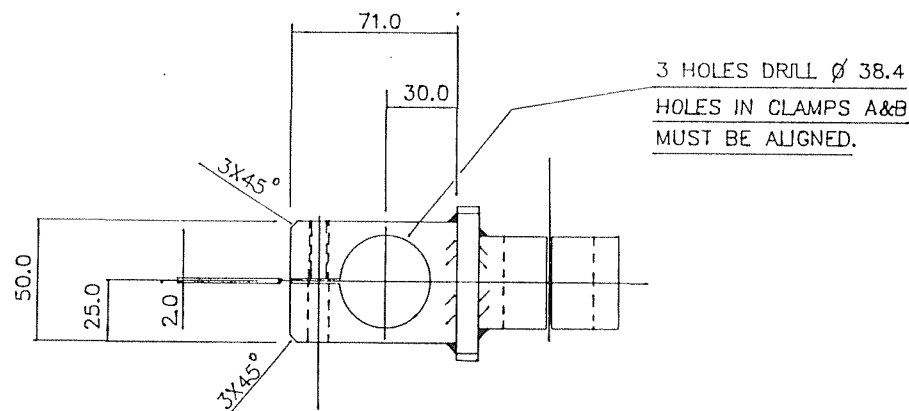
MATERIAL AL ALLOY HP-30-WP.	PROTECTIVE FINISH ANODISE NATURAL CHROMIC ACID,
RO OFF PER UNIT 1	TOTAL RO OFF
DIMENSIONS IN mm.	SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED: $+/- .1mm$
 $L = +/- .1mm$
 $XX = +/- .1mm$

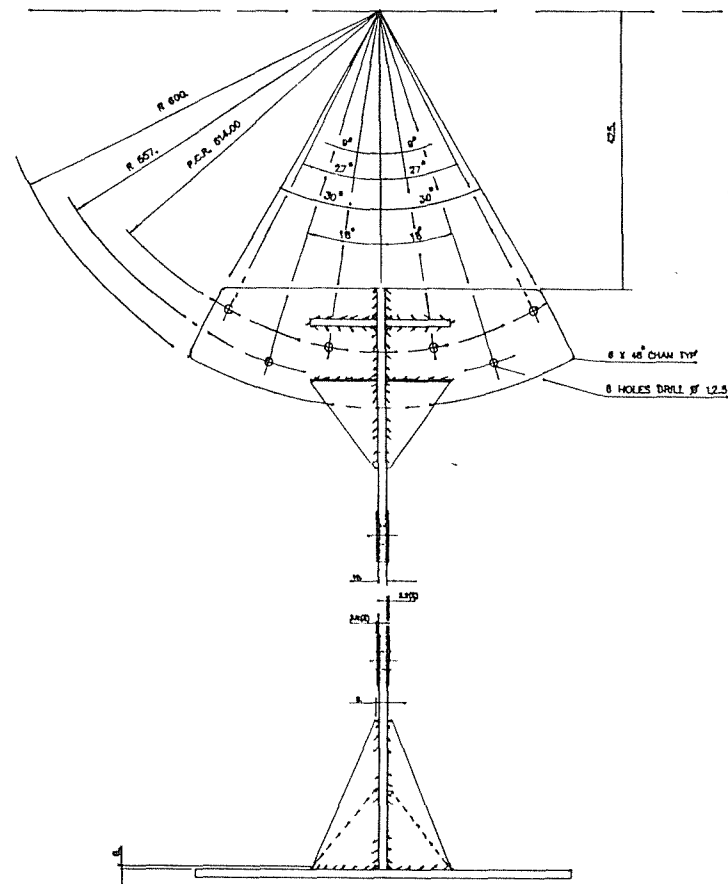
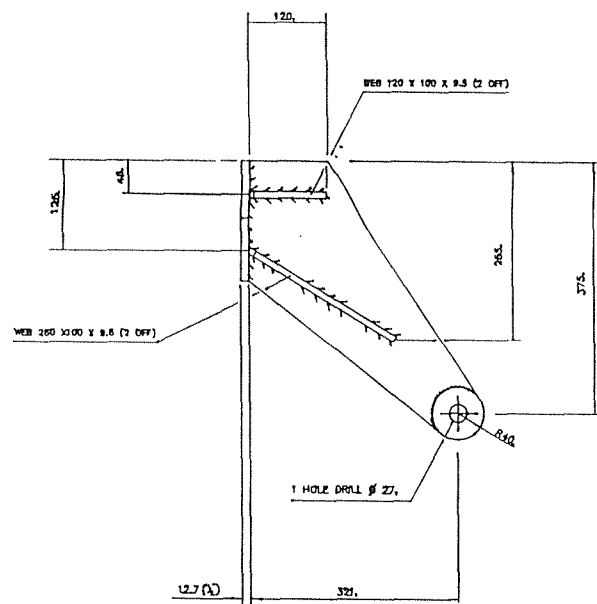
DO NOT SCALE

AMENDMENT						ISSUE	DATE
INSTITUTE OF OCEANOGRAPHIC SCIENCES							
TITLE BATTERY BOX LD.						DRAWING No. L.O.S./CS597	DATE 20



WELD WHERE THUS: -

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm .001$ $2 \pm .001$ $3 \pm .001$		AMENDMENT ISSUE DATE AMENDMENT CERTIFIED 1 28-2-	
MATERIAL AL ALLOY HE-80-WP. PROTECTIVE FINISH ANODIZE NATURAL OXIDIZE ACID. TOTAL ROYOFF DIMENSIONS IN MM SCALE N.T.S		INSTITUTE OF OCEANOGRAPHIC SCIENCES TITLE YOUNGS ANEMOMETER CLAMP. DRAWING NO. 105507	



NOTES:

WELD WHERE THUS 1- 

PLATE MUST BE FLAT AFTER WELDING.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE									
TOLERANCE EXCEPT WHERE OTHERWISE STATED $\pm .0005$		JONES <i>John</i> JONES <i>John</i>		EXPENDITURE 10000		DATE 10-2-20		10000 10-2-20	
INSTITUTE OF OCEANOGRAPHIC SCIENCES									
TITLE		ANCHOR FRAME		DRAWING No.		O.S. 65397		DATE	
MATERIAL		PROTECTIVE FRASH		PER UNIT		TOTAL		DO NOT SCALE	
WELD STEEL		FRONT AND OXIDE		1		ROFF			
DIMENSIONS IN INCH		SCALE							

Q/RE 11/11
CHECKED
TRACED
DELIVERED

SIZE	A
------	---

DRAWING No. I.O.S./C5597
 DETAIL 23

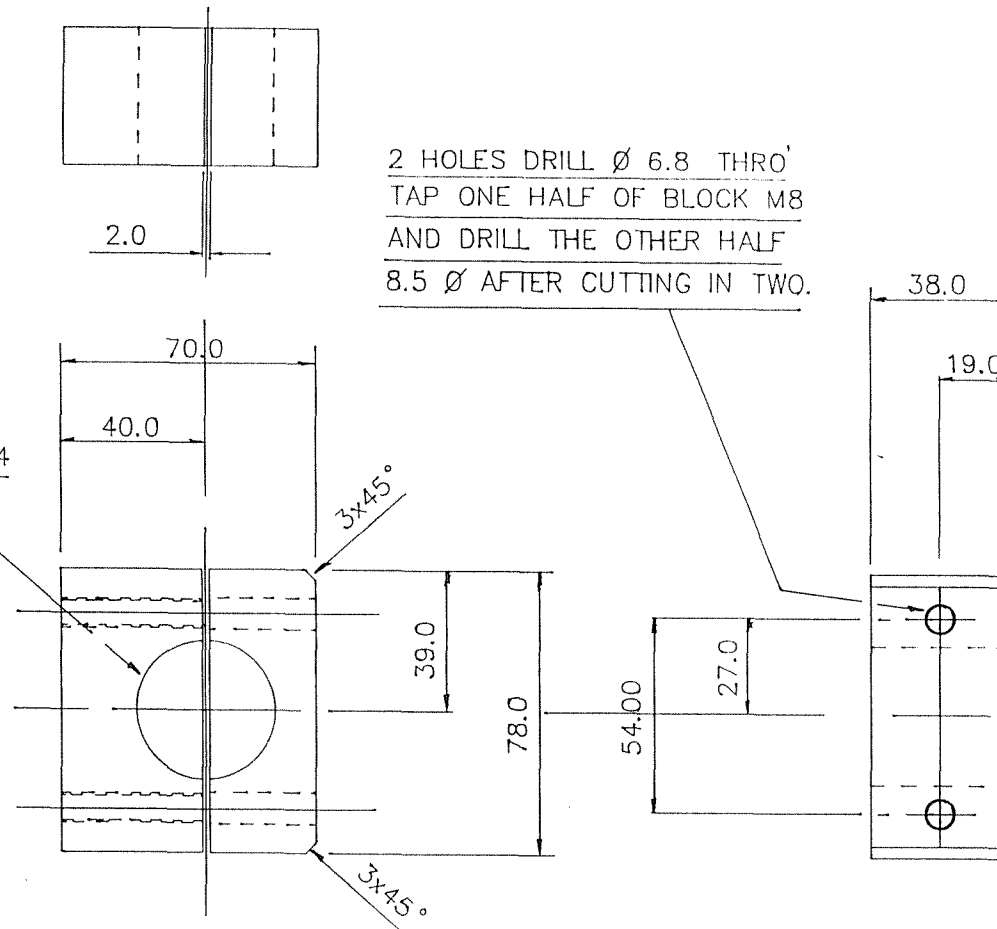
THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON

1 HOLE DRILL $\varnothing$ 38.4

2 HOLES DRILL $\varnothing$ 6.8 THRO'
 TAP ONE HALF OF BLOCK M8
 AND DRILL THE OTHER HALF
 8.5 $\varnothing$ AFTER CUTTING IN TWO.



Q.No. w/s

CHECKED

TRACED

DRAWN

MATERIAL	PROTECTIVE FINISH
AL ALLOY	ANODISE NATURAL
HE-30-WP	CHROMIC ACID
No.OFF PER UNIT 8	TOTAL No.OFF
DIMENSIONS IN m.m.	SCALE N.T.S.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED: ± 0.1 mm.
 $.X = \pm 0.4$ m.m.
 $.XX = \pm 0.1$ m.m.

DO NOT SCALE

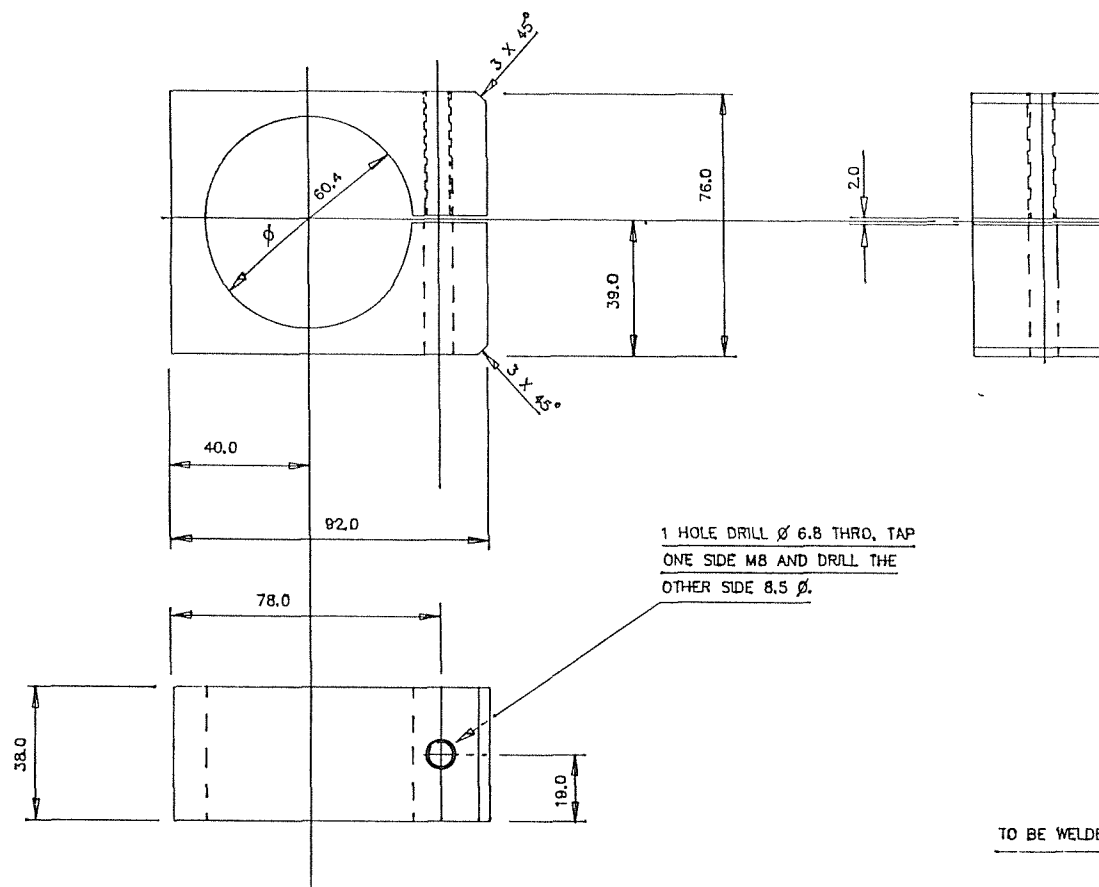
AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	28/2/91
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE TOP RING CLAMP.			DRAWING No. I.O.S./C5597 DETAIL 23		

SIZE D

DETAIL
25

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



TO BE WELDED TO DETAIL 26.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

Q/No. W/S	REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE									
CHECKED	MATERIAL AL ALLOY HE-30-WP	PROTECTIVE FINISH ANODISE NATURAL CHROMIC ACID AFTER WELDING.	TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm .1mm$ $X\pm \pm .4mm$ $XX\pm \pm .1mm$							
TRACED				AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE	
DRAWN	No. OFF PER UNIT 2	TOTAL No. OFF		INSTITUTE OF OCEANOGRAPHIC SCIENCES						
	DIMENSIONS IN mm.	SCALE	DO NOT SCALE	TITLE 60 m.m. CLAMP.				DRAWING No. I.O.S./C5597		DETAIL 25
SIZE D										

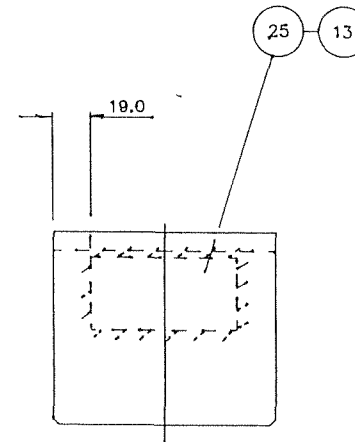
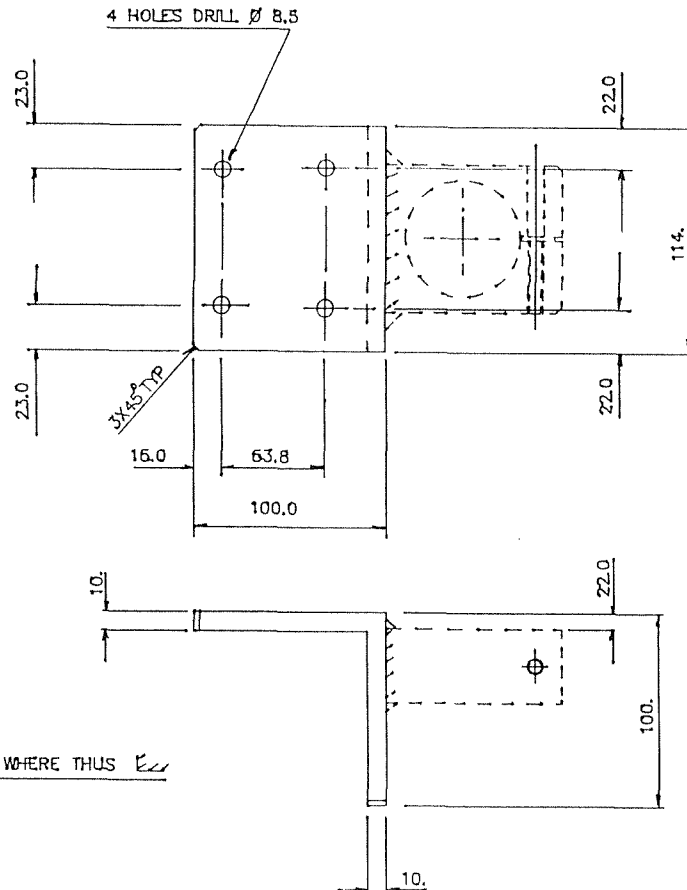
DRAWING No.
I.O.S./C5597

DETAIL
26

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

MATERIAL
AL ALLOY
HE-30-WP

No. OFF
PER UNIT 3

DIMENSIONS IN mm.

PROTECTIVE FINISH
ANODISE NATURAL
CHROMIC ACID.

TOTAL
No. OFF

SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED: ± 0.1 mm

XX ± 0.1 mm

XX ± 0.1 mm

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

ISSUE

DATE

CERTIFIED

1

4-3-01

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

ANGLE A

DRAWING No.

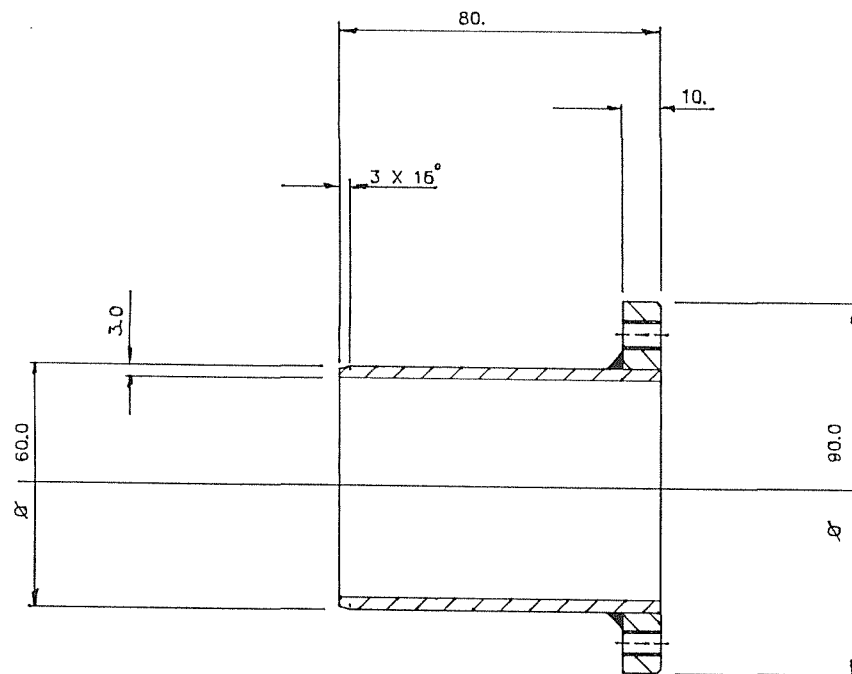
I.O.S./C5597

DETAIL

26

SIZE D

USED ON



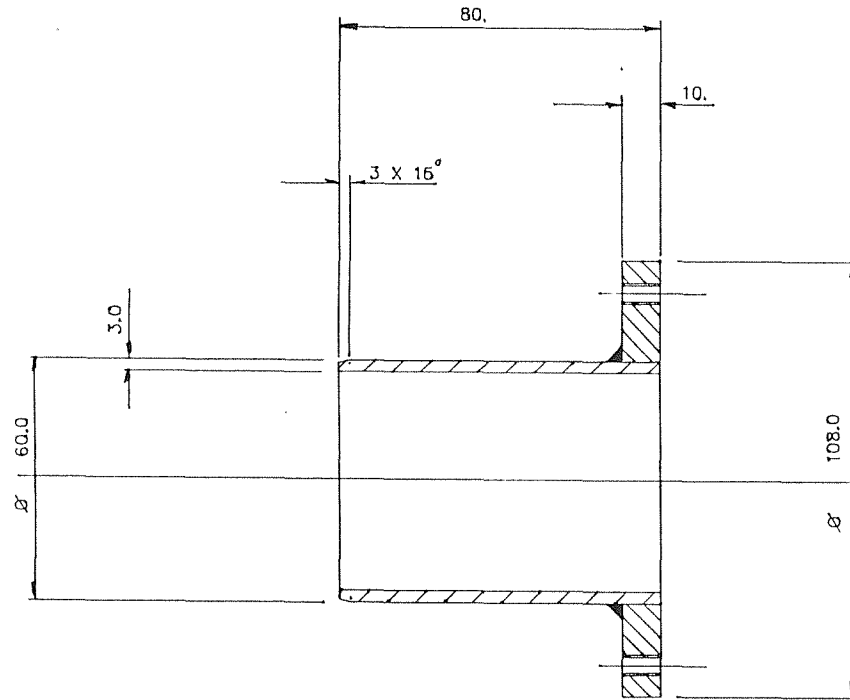
4 HOLES EQUI-SPACED ON 75.00 P.C.D.
DRILL Ø 5 AND TAP M6 X 1.

WELD WHERE THUS: -

o/No. w/s		REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE										
CHECKED	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm 1\text{mm}$.									
	AL ALLOY HE-30-WP.	ANODISE NATURAL CHROMIC ACID.	$X = \pm 0.4\text{mm}$ $.XX = \pm 0.1\text{mm}$									
TRACED	No.OFF PER UNIT 1.	TOTAL No.OFF					AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
DRAWN	DIMENSIONS IN m.m.		DO NOT SCALE				INSTITUTE OF OCEANOGRAPHIC SCIENCES					
	SCALE						CERTIFIED					
SIZE D					TITLE				DRAWING No.			
					ANEMOMETER BASE TUBE				I.O.S./C5597			
									DETAIL			
									27.			

I.O.S./C5597 28.

USED ON



WELD WHERE THUS: -

O/No. W/S

CHECKED

TRACED

DRAWN

SIZE D

MATERIAL
AL ALLOY
HE-30-WP.

PROTECTIVE FINISH
ANODISE NATURAL
CHROMIC ACID.

No. OFF
PER UNIT 2
DIMENSIONS IN - m.m.

TOTAL
No. OFF
SCALE N.T.S.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED: $\pm 1\text{m.m.}$

$X = \pm 0.4\text{m.m.}$
 $.XX = \pm 0.1\text{m.m.}$

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

ISSUE

DATE

CERTIFIED

1.

4/3/91

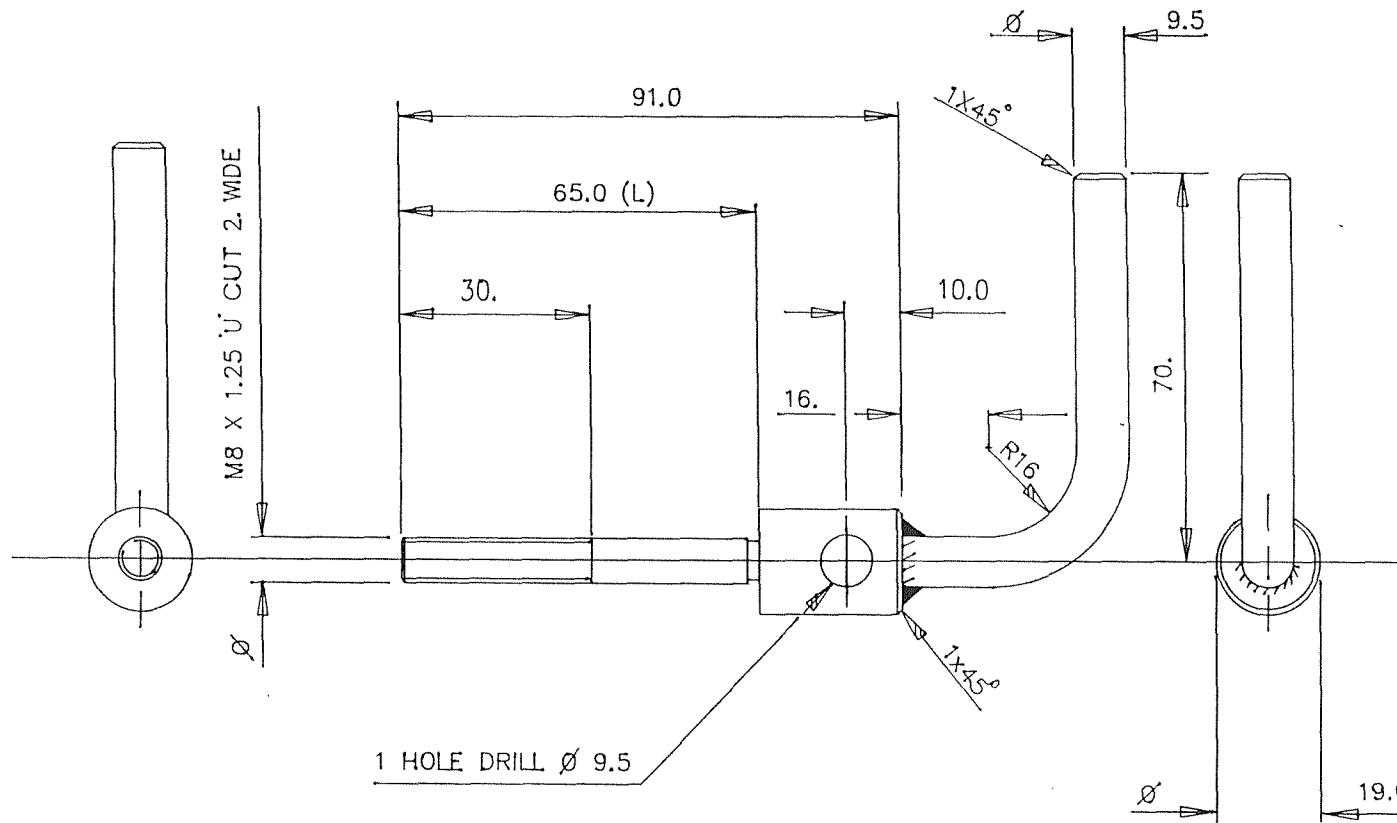
INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE
DCP ANTENNA TUBE BASE.

DRAWING No.
I.O.S./C5597

DETAIL
28.

USED ON



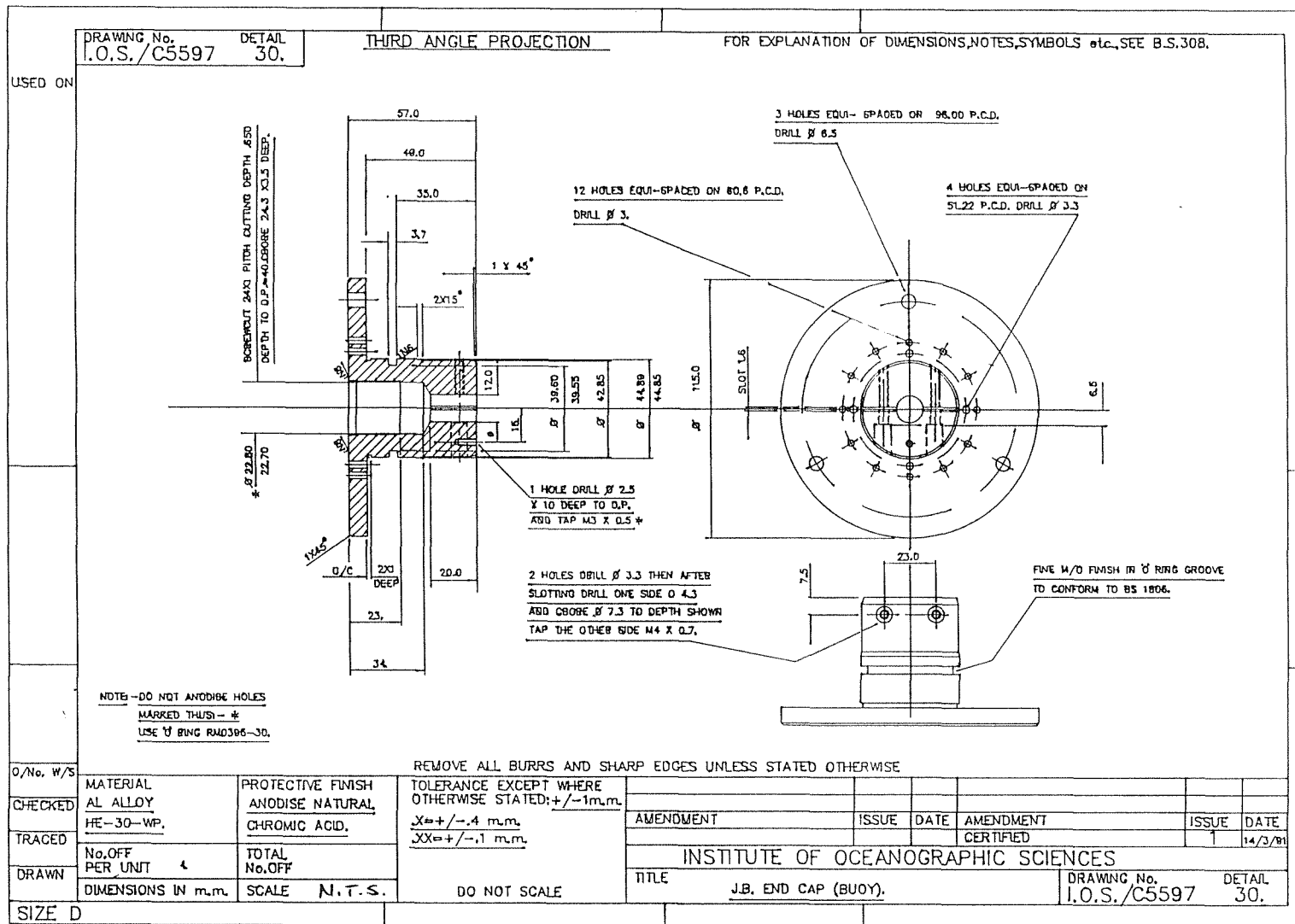
NOTE: -WELD WHERE THUS:- 

(L): -CUT TO LENGTH REQD.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

Q/No. W/S	MATERIAL		PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm 0.1\text{mm}$					
CHECKED	ST. STEEL.		NONE						
TRACED	316-S16.			$X = \pm 0.4\text{mm}$ $XX = \pm 1\text{mm}$					
DRAWN	No. OFF PER UNIT 12.		TOTAL No. OFF	AMENDMENT ISSUE DATE AMENDMENT CERTIFIED					
	DIMENSIONS IN mm		SCALE	INSTITUTE OF OCEANOGRAPHIC SCIENCES TITLE CLAMP BOLT. DRAWING No. I.O.S./C5597 DETAIL 29.					
				DO NOT SCALE					

SIZE D



DRAWING No.
I.O.S./ C5597

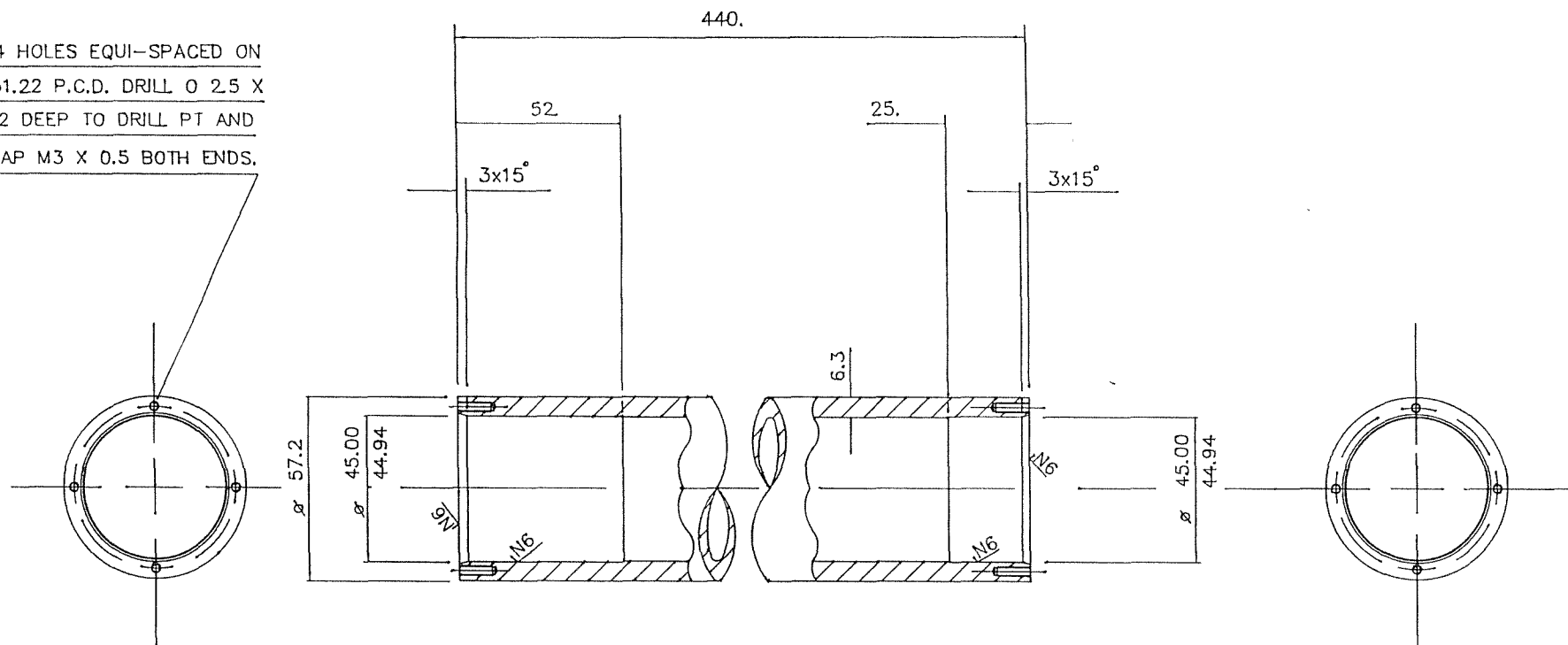
DETAIL
31

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON

4 HOLES EQUI-SPACED ON
51.22 P.C.D. DRILL 0 2.5 X
12 DEEP TO DRILL PT AND
TAP M3 X 0.5 BOTH ENDS.



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

O/No. w/s

CHECKED

TRACED

DRAWN

SIZE D

MATERIAL
AL ALLOY
HT-30-WP.

PROTECTIVE FINISH
ANODISE NATURAL
CHROMIC ACID.

TOLERANCE EXCEPT WHERE
OTHERWISE STATED: ± 0.1 m.m.
.X ± 0.4 m.m.
.XX ± 0.1 m.m.

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

ISSUE

DATE

CERTIFIED

1

18/3/91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

J.B. TUBE (BUOY).

DRAWING No.

I.O.S./ C5597

DETAIL

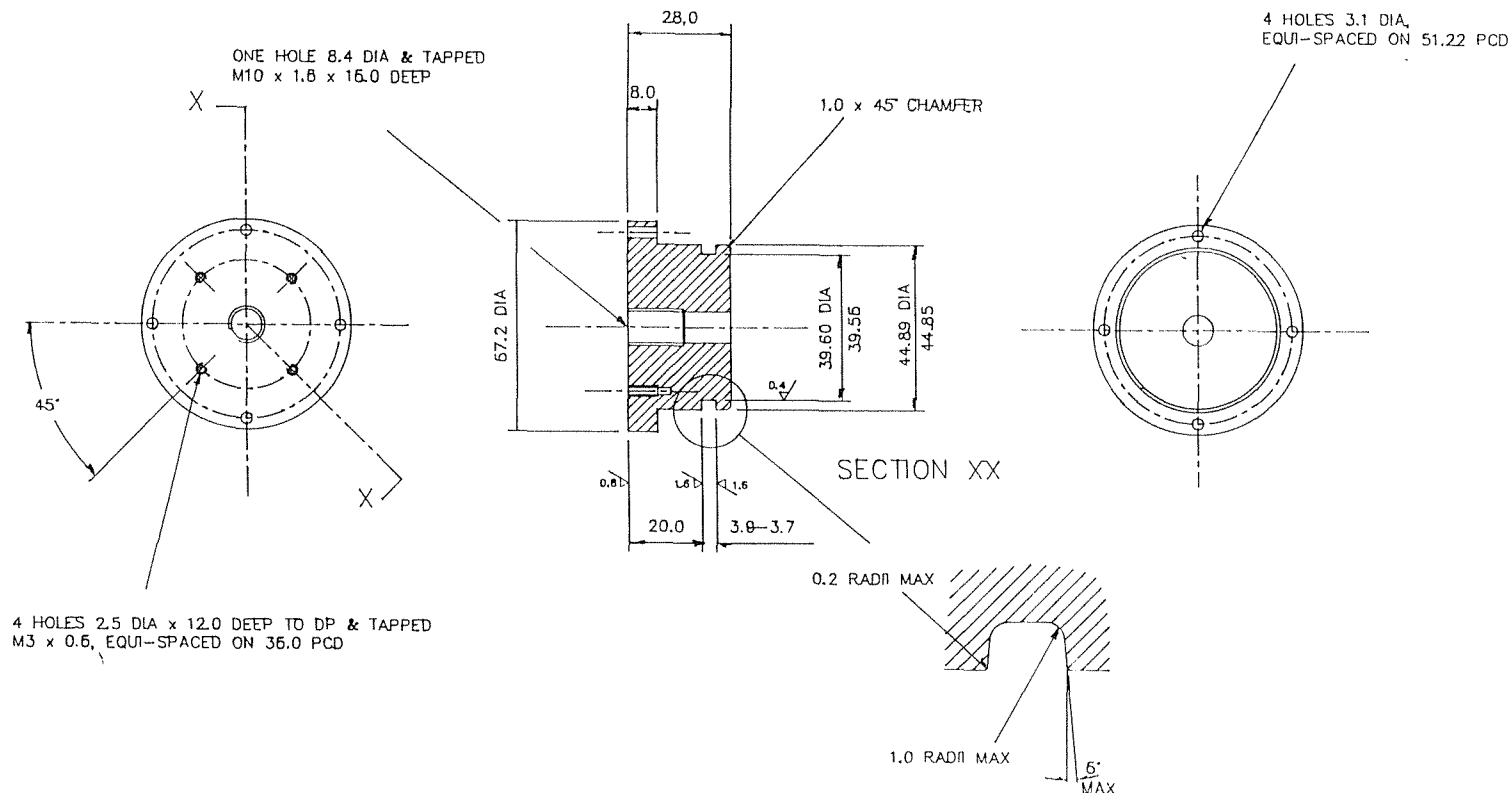
31

DRAWING No. I.O.S./C5597
 DETAIL 32

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. w/s

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

CHECKED

MATERIAL
 ALUMINIUM ALLOY
 HE-30

PROTECTIVE FINISH
 ANODISE

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED:

± 0.1

TRACED

No. OFF
 PER UNIT 2

TOTAL
 No. OFF

DRAWN
 N. J. J. J. J.

DIMENSIONS IN m.m.

SCALE 1:1 & 5:1

DO NOT SCALE

AMENDMENT		ISSUE	DATE	AMENDMENT	ISSUE	DATE
				CERTIFIED		

INSTITUTE OF OCEANOGRAPHIC SCIENCES

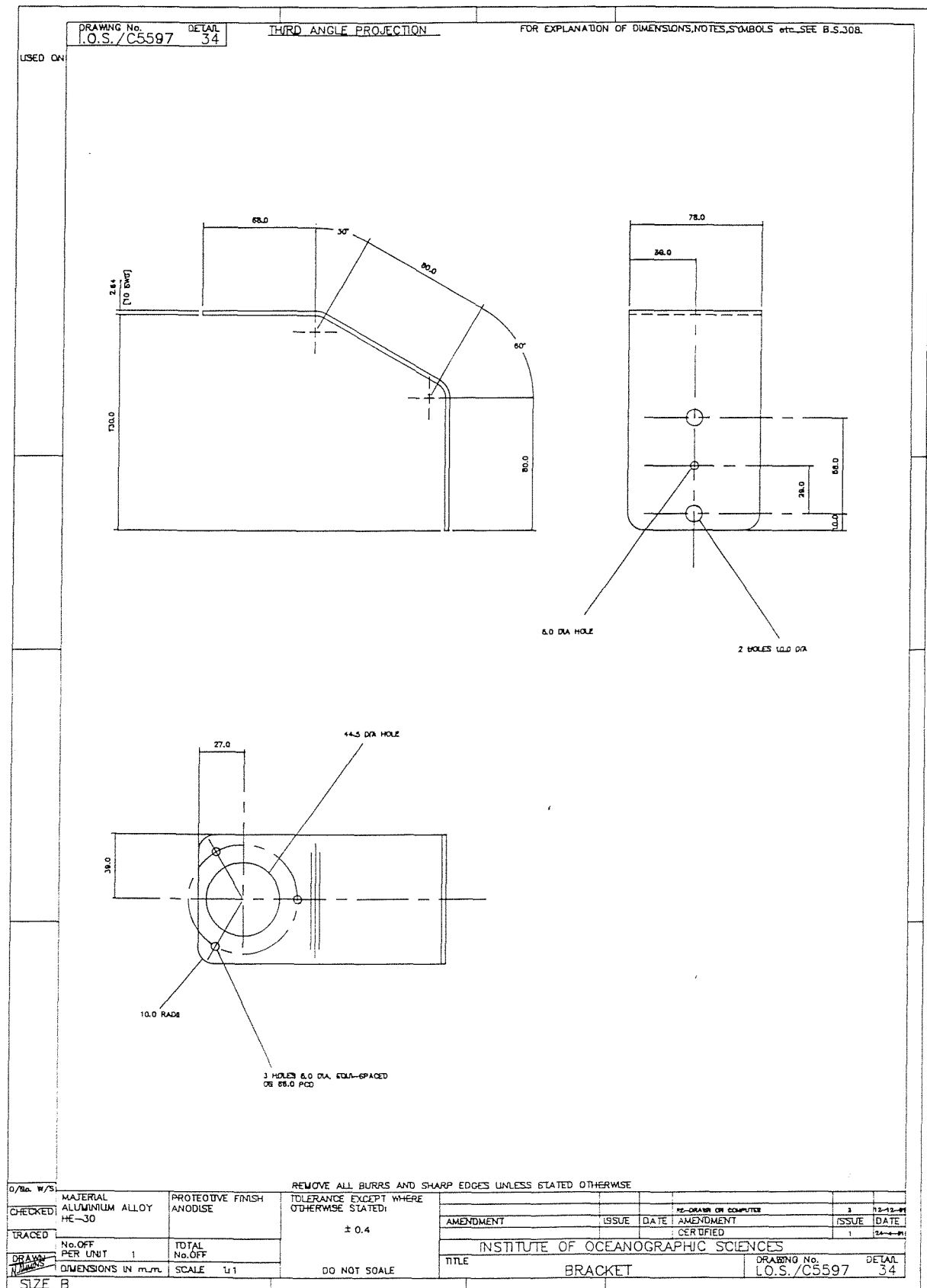
TITLE
 TEMPERATURE SENSOR MOUNTING

DRAWING No. I.O.S./C5597
 DETAIL 32

SIZE C

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

Q/No. W/S	MATERIAL RIGID PVC	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.1	REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE							
CHECKED								RE-DRAWN ON COMPUTER	2	11-12-91	
TRACED				AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE		
	No.OFF PER UNIT 2	TOTAL No.OFF		INSTITUTE OF OCEANOGRAPHIC SCIENCES							
DRAWN N. JIMMINS	DIMENSIONS IN m.m.	SCALE 1:1	DO NOT SCALE	TITLE SPACER RING				DRAWING No. I.O.S./ C5597	DETAIL 33		
SIZE C											

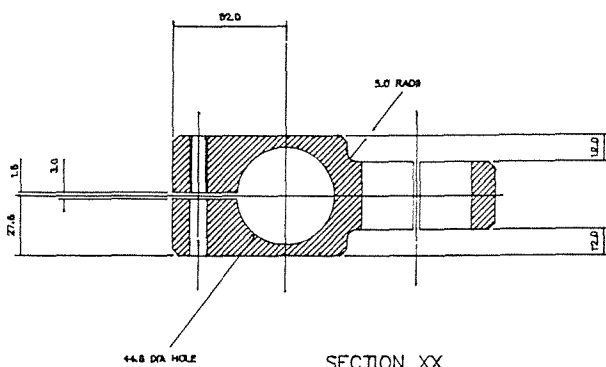


DRAWING No. I.O.S./C5597 DETAIL 35

THIRD ANGLE PROJECTION

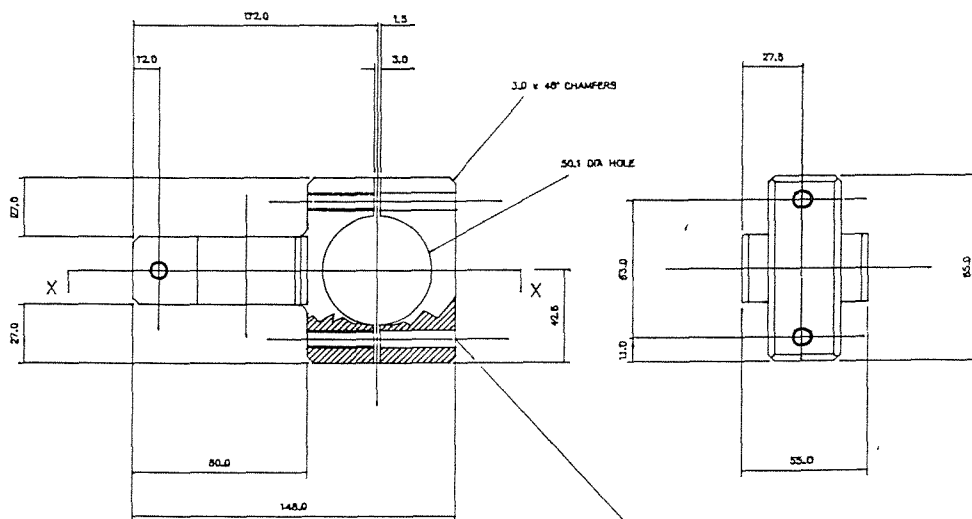
FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc. SEE B.S.308.

USED ON



NOTE

REMOVE SHARP CORNERS OF 3.0 HOLE
SLOTS & MAIN BORES



2 SETS OF 2 HOLES IN LINE
ONE HOLE 8.4 DIA
THE OTHER HOLE 8.7 DIA &
TAPPED 8/18 x 1.25

O/Ds W/S

CHECKED

TRACED

DRAWN

SIZE B

MATERIAL
ALUMINIUM ALLOY
HE-30

PROTECTIVE FINISH
ANODISE

No. OFF
PER UNIT 2

TOTAL
No. OFF

DIMENSIONS IN mm

SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 0.4

DO NOT SCALE

RE-DESIGN OR COMPUTER

AMENDMENT

ISSUE

DATE

CERTIFIED

1

DATE

10-8-88

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

CLAMP

DRAWING No.

I.O.S./C5597

DETAIL

35

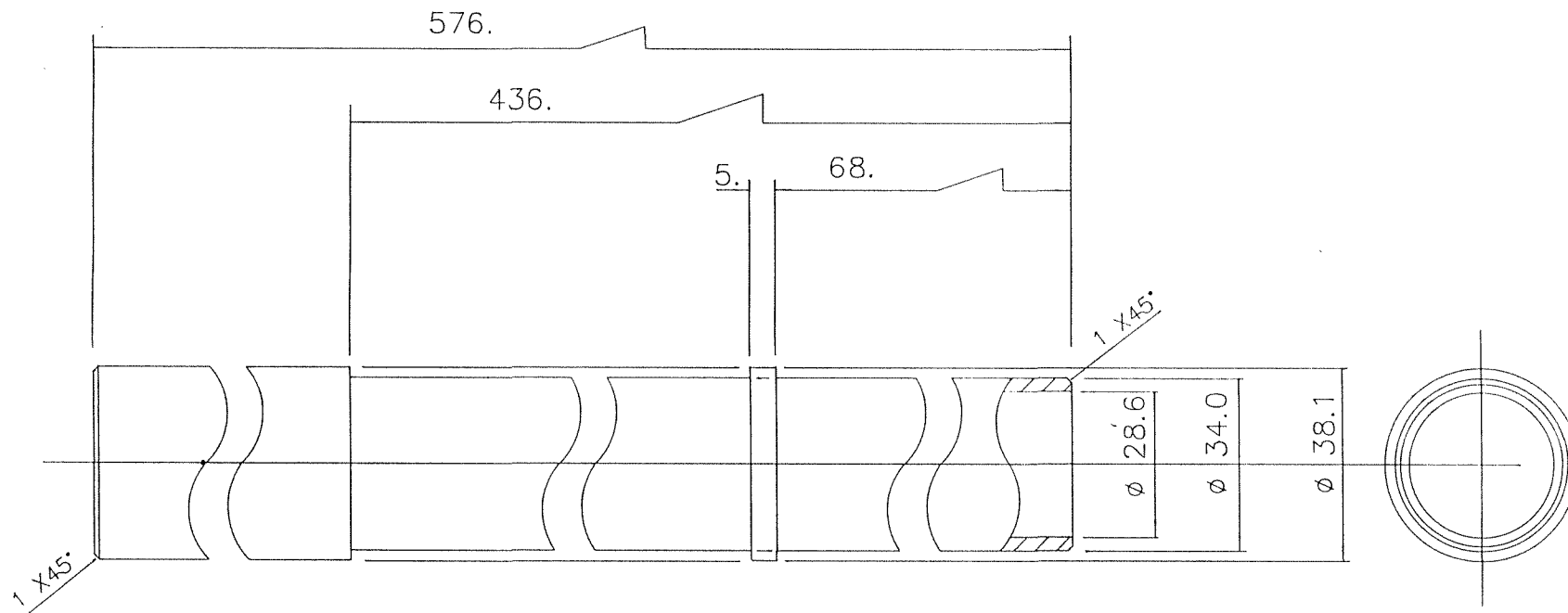
DRAWING No.
I.O.S./C5597

DETAIL
38.

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

SIZE D

MATERIAL AL ALLOY HT-30-WP	PROTECTIVE FINISH ANODISE NATURAL CHROMIC ACID.
No.OFF PER UNIT 2.	TOTAL No.OFF 2.
DIMENSIONS IN m.m.	SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED: ± 0.1 m.m.

.X = ± 0.4 m.m.

.XX = ± 0.1 m.m.

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT CERTIFIED	ISSUE 1	DATE 9/5/91
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE ANEMOMETER EXTENSION TUBE.			DRAWING No. I.O.S./C5597		
			DETAIL 38.		

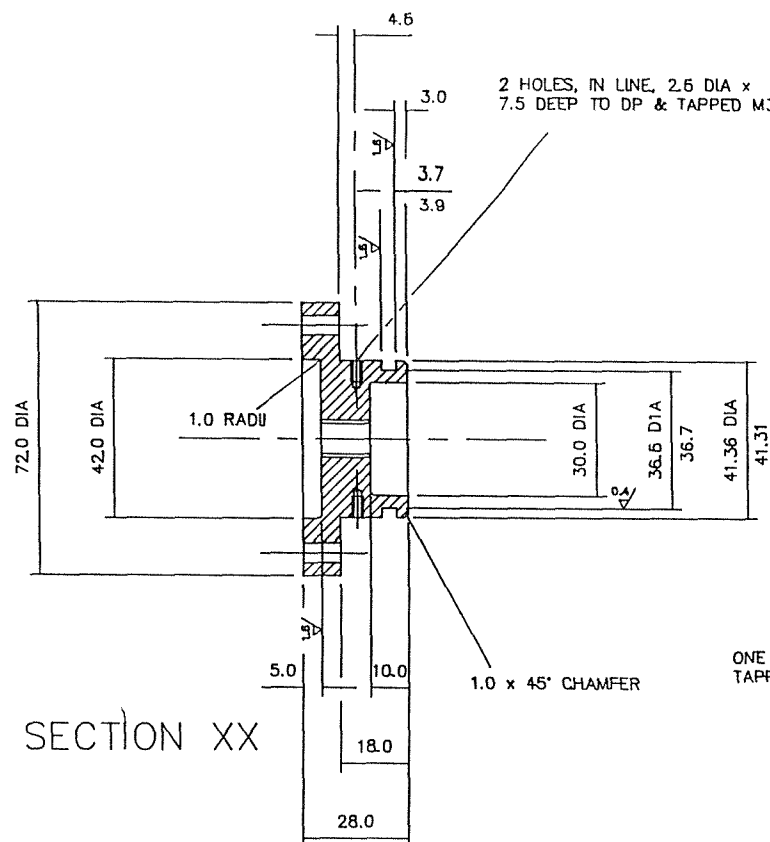
DRAWING No.
I.O.S./C5597

DETAIL
39

THIRD ANGLE PROJECTION

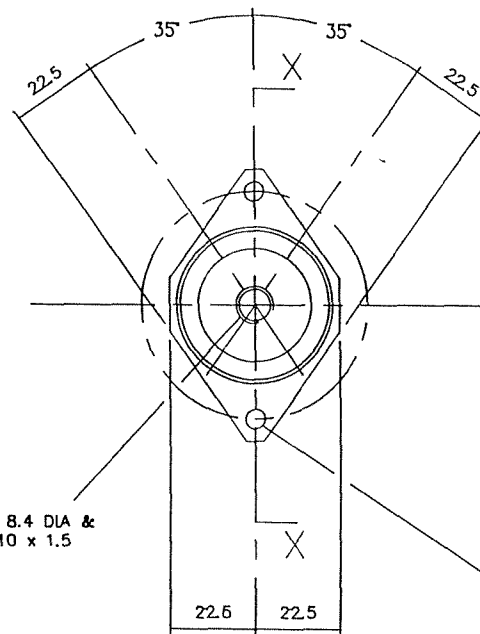
FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



SECTION XX

ONE HOLE 8.4 DIA &
TAPPED M10 x 1.5



2 HOLES 5.2 DIA
EQUI-SPACED ON 60.0 PCD

O/No. W/S

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

CHECKED

MATERIAL
ALUMINIUM ALLOY
HE-30

PROTECTIVE FINISH
ANODISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 0.1

TRACED

No. OFF
PER UNIT 2

TOTAL
No. OFF

DRAWN
N. J. J. J.

DIMENSIONS IN m.m.

SCALE 1:1

DO NOT SCALE

AMENDMENT

ISSUE

DATE

RE-DRAWN ON COMPUTER

2

28-4-92

AMENDMENT

ISSUE

DATE

CERTIFIED

1

15-6-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

FLANGED END CAP

DRAWING No.

I.O.S./C5597

DETAIL

39

SIZE C

DRAWING No. I.O.S./5597
 DETAIL 40

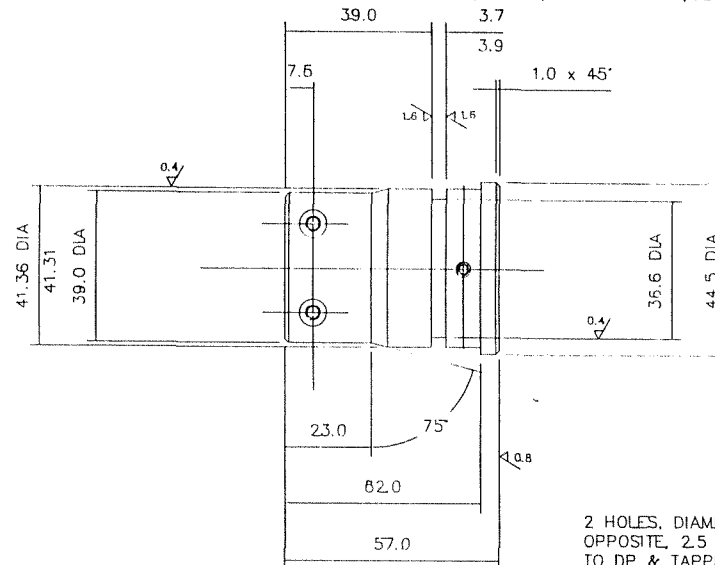
THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

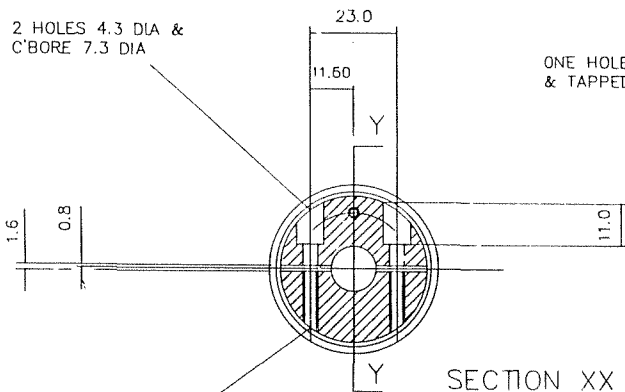
USED ON

NOTE

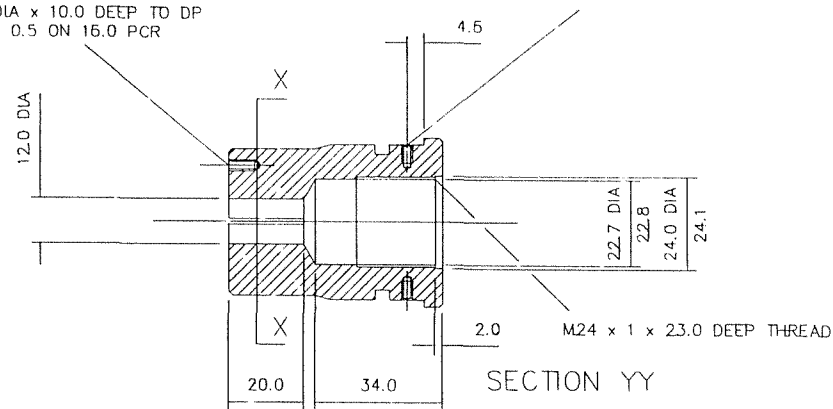
MASK ALL THREADS BEFORE ANODISING



2 HOLES 4.3 DIA & C'BORE 7.3 DIA



ONE HOLE 2.5 DIA x 10.0 DEEP TO DP & TAPPED M3 x 0.5 ON 15.0 PCR



O/No. w/s

CHECKED

TRACED

DRAWN

N. JIMMINS

MATERIAL ALUMINIUM ALLOY

PROTECTIVE FINISH ANODISE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE OTHERWISE STATED:

± 0.1

DO NOT SCALE

AMENDMENT

ISSUE

DATE

RE-DRAWN ON COMPUTER

2

9-12-92

AMENDMENT

ISSUE

DATE

CERTIFIED

1

15-6-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

END CAP

DRAWING No. I.O.S./5597

DETAIL 40

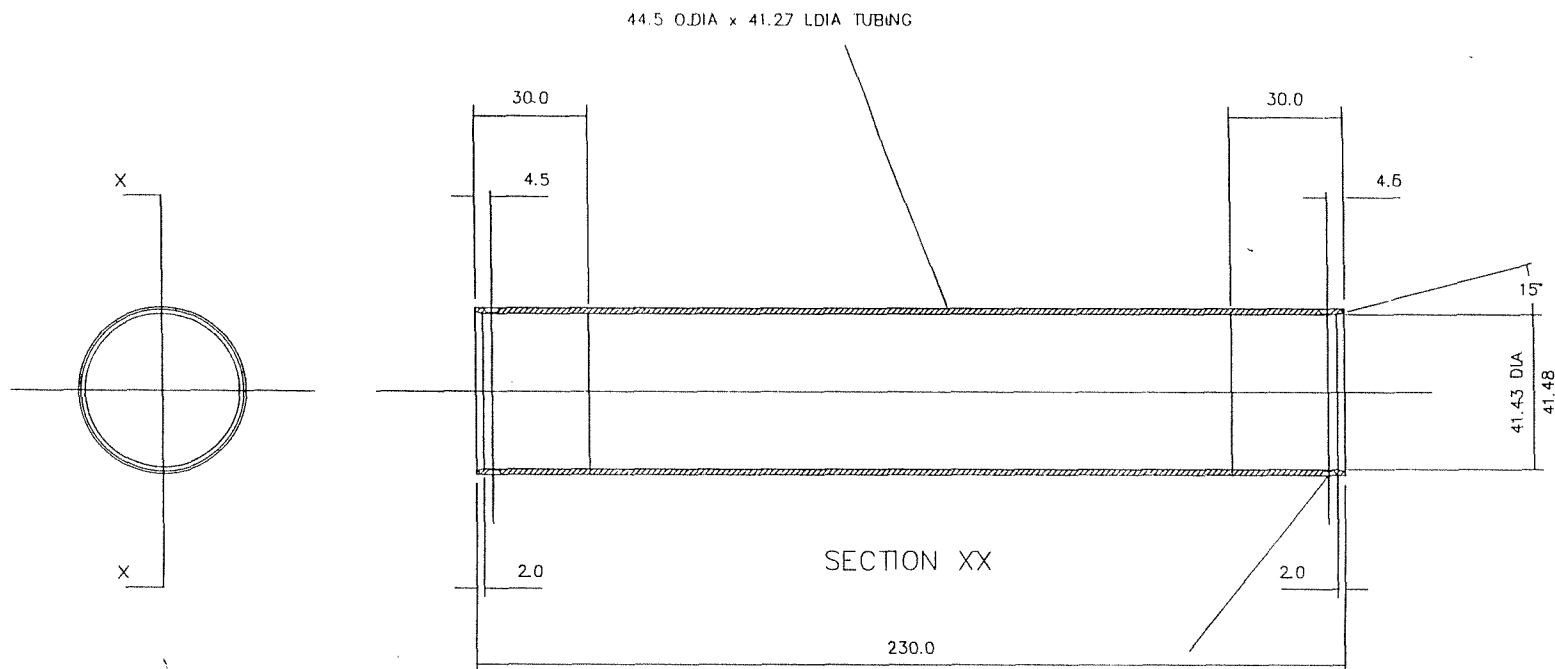
SIZE C

DRAWING No. I.O.S./ 5597
 DETAIL 41

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN
 N. JIMMINS

MATERIAL
 ALUMINIUM ALLOY

PROTECTIVE FINISH
 ANODISE

No. OFF
 PER UNIT 2

TOTAL
 No. OFF

DIMENSIONS IN m.m.

SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED:

± 0.4

DO NOT SCALE

AMENDMENT

ISSUE

DATE

RE-DRAWN ON COMPUTER

2

10-12-92

AMENDMENT

ISSUE

DATE

CERTIFIED

1

15-6-02

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

TUBE

DRAWING No.

I.O.S./ 5597

DETAIL

41

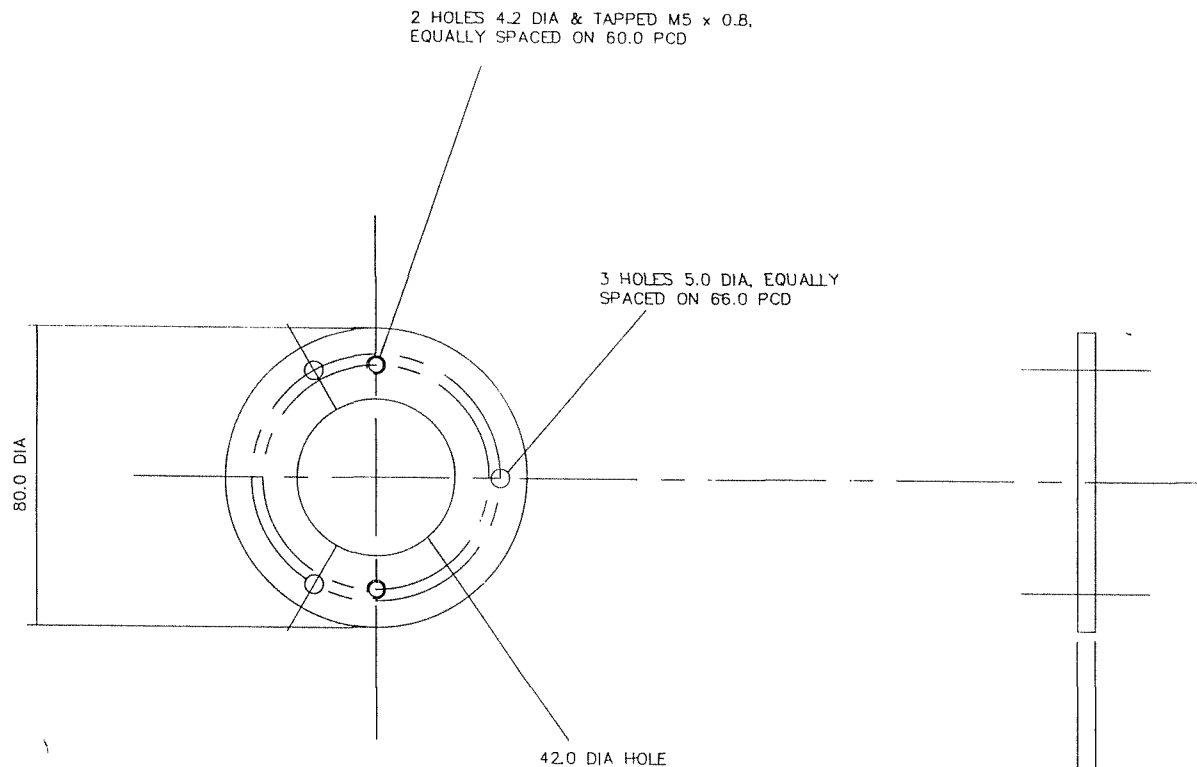
SIZE C

DRAWING No. I.O.S./ 5597
DETAIL 42

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN
N. DAVIES

MATERIAL
ALUMINIUM ALLOY

PROTECTIVE FINISH
ANODISE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 0.1

DO NOT SCALE

AMENDMENT

ISSUE

DATE

RE-DRAWN ON COMPUTER

2

10-12-92

AMENDMENT

ISSUE

DATE

CERTIFIED

1

15-6-01

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

PLATE

DRAWING No.
I.O.S./5597

DETAIL
42

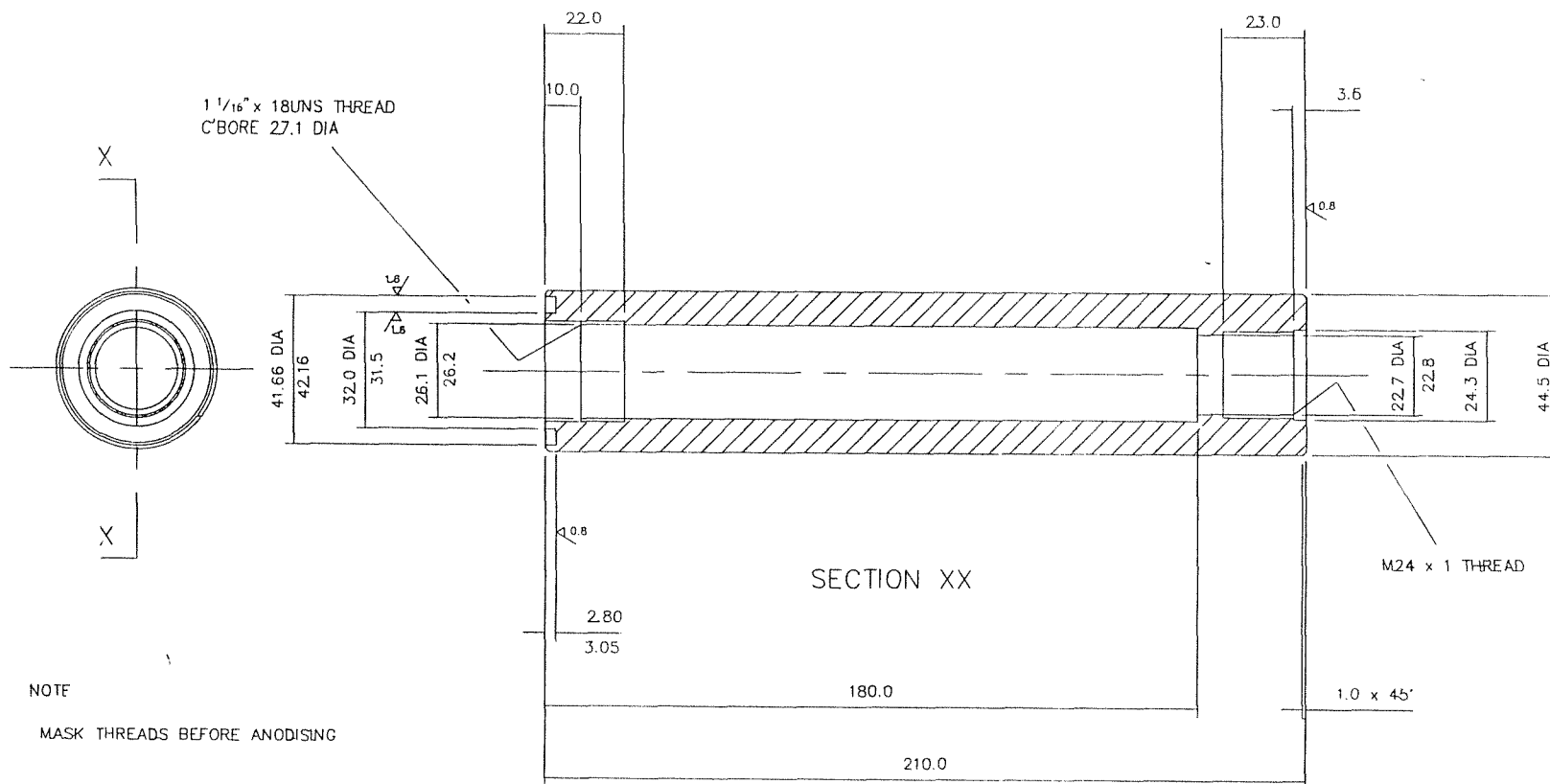
SIZE C

DRAWING No. I.O.S./ 5597
 DETAIL 43

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



NOTE

MASK THREADS BEFORE ANODISING

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE OTHERWISE STATED:

± 0.1

DO NOT SCALE

AMENDMENT	ISSUE	DATE	RE-DRAWN ON COMPUTER	2	11-12-92
			AMENDMENT	ISSUE	DATE
			CERTIFIED	1	20-6-92
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE			DRAWING No. I.O.S./ 5597		
TUBE, XENON BEACON			DETAIL 43		

O/No. W/S

CHECKED

TRACED

DRAWN
 N. JIMMINS

MATERIAL ALUMINIUM ALLOY

PROTECTIVE FINISH ANODISE

No. OFF PER UNIT 1

TOTAL No. OFF

DIMENSIONS IN m.m.

SCALE 1:1

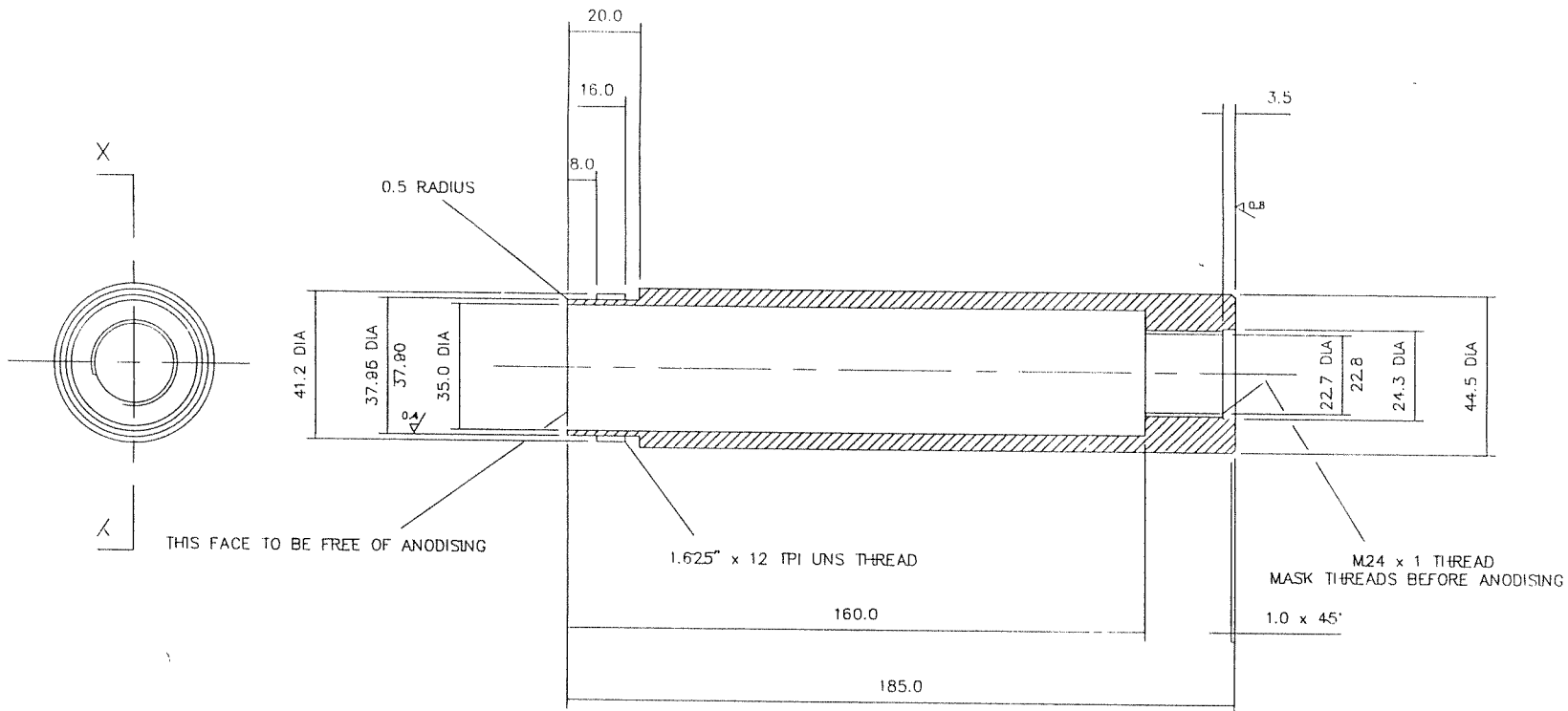
SIZE C

DRAWING No. I.O.S./ 5597
DETAIL 44

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



SECTION XX

O/No. w/s

CHECKED

TRACED

DRAWN

BY

DATE

MATERIAL ALUMINIUM ALLOY	PROTECTIVE FINISH ANODISE
No. OFF PER UNIT 1	TOTAL No. OFF
DIMENSIONS IN m.m.	SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

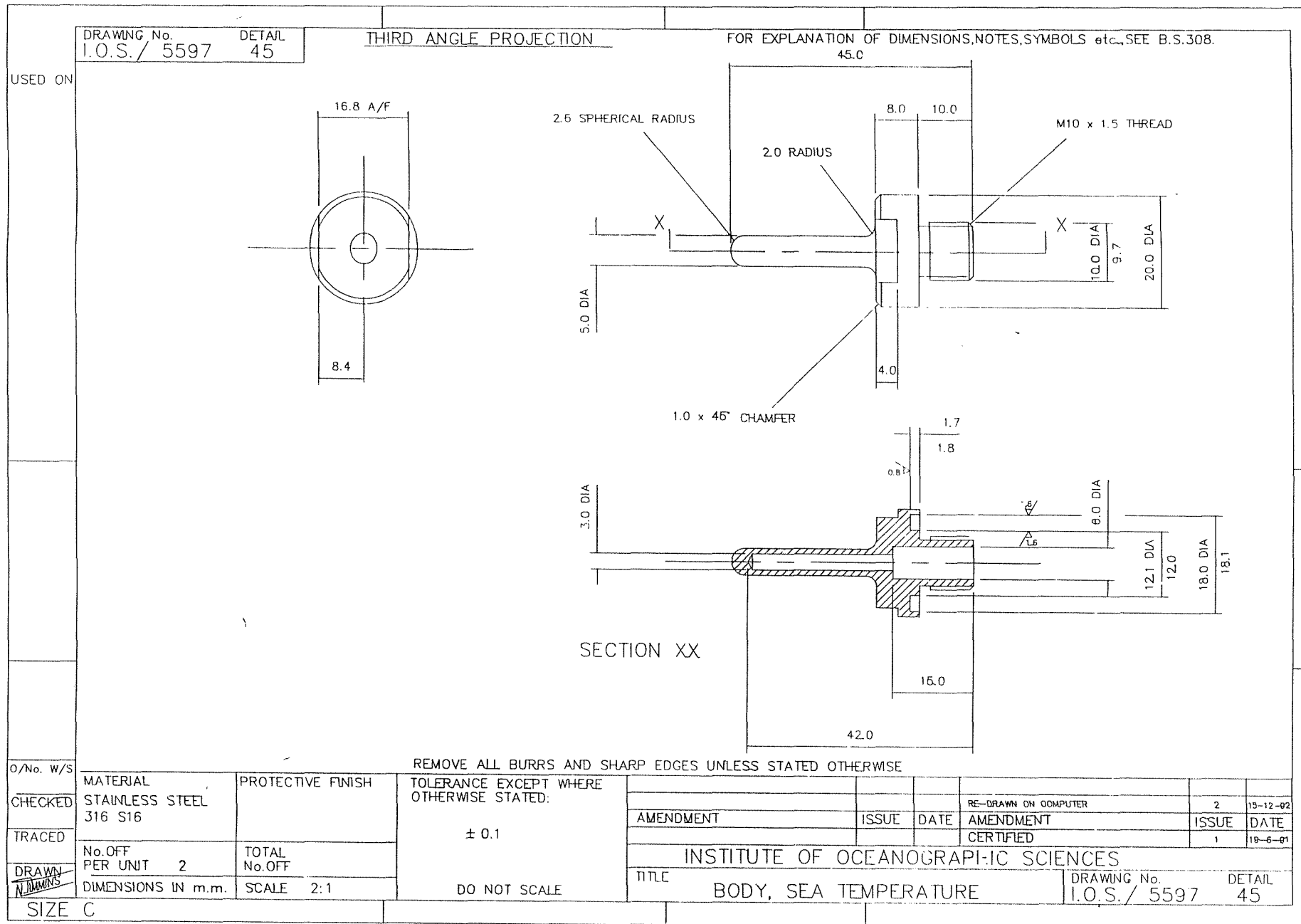
TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

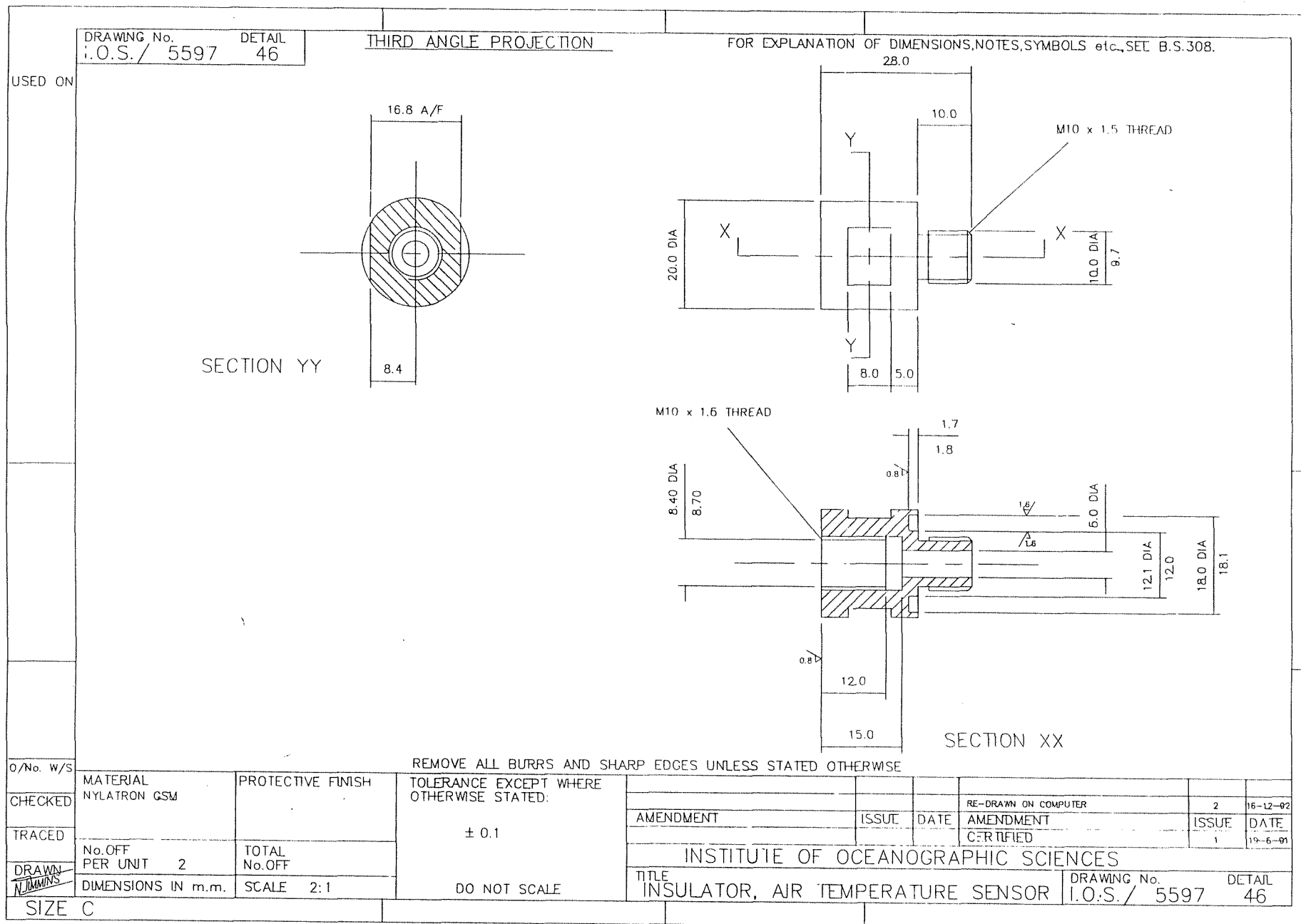
± 0.1

DO NOT SCALE

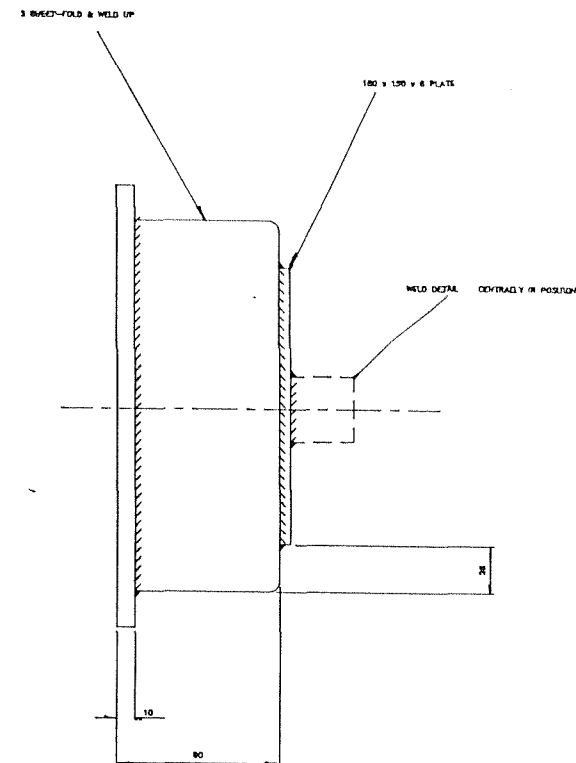
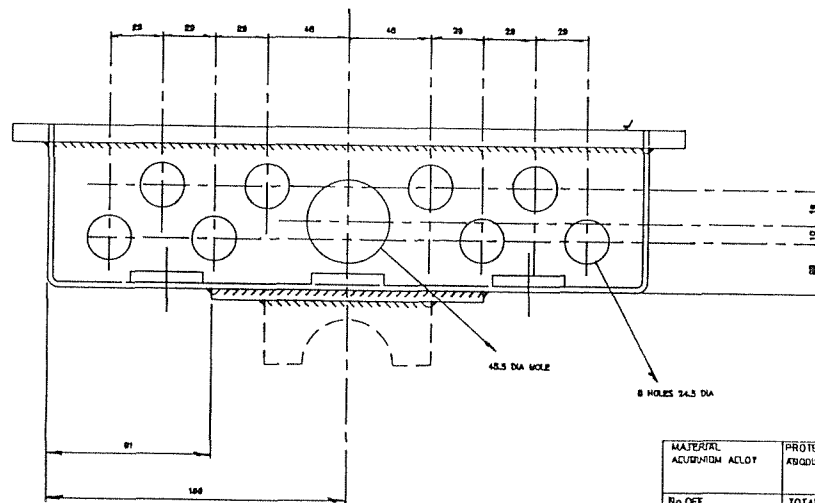
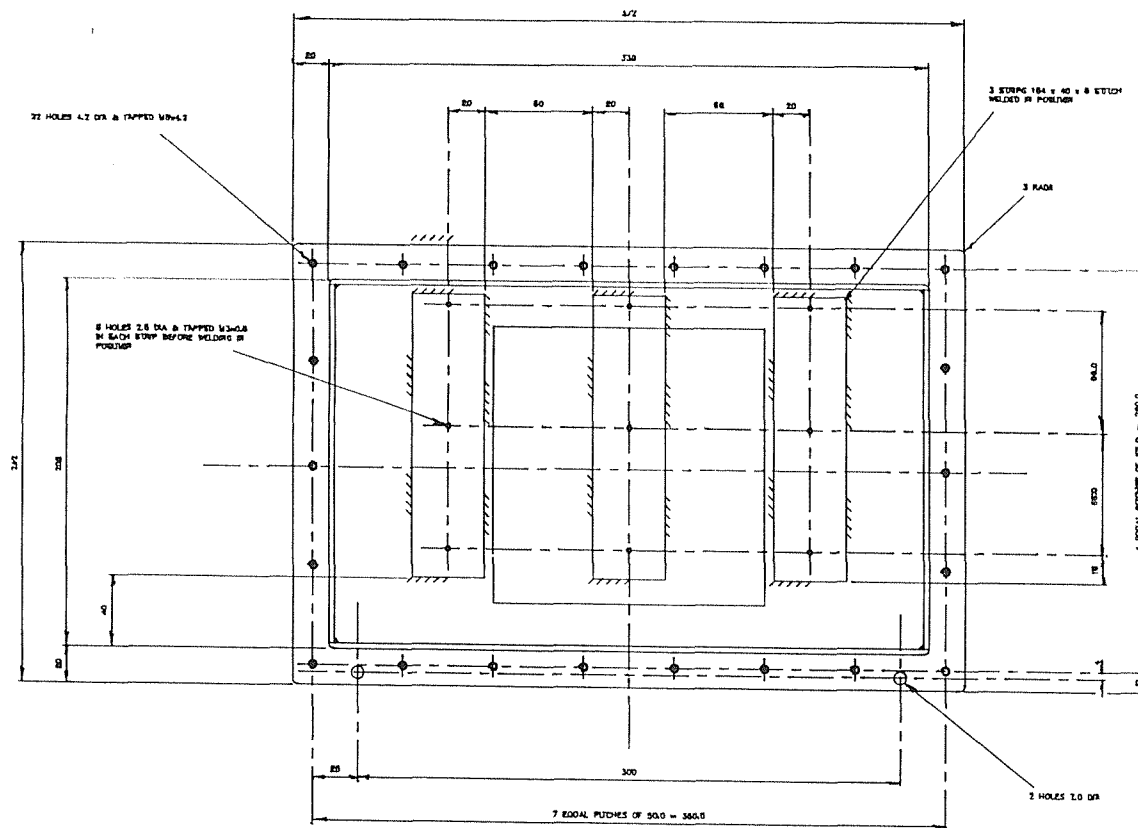
AMENDMENT	ISSUE	DATE	RE-DRAWN ON COMPUTER	2	11-12-92
			AMENDMENT	ISSUE	DATE
			CERTIFIED	1	20-6-02
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE			DRAWING No. I.O.S./ 5597		
TUBE, R.F. BEACON			DETAIL 44		

SIZE C





Q/En W/E
CHECKED
TRACED
DRAWN
BY
DATE
SIZE A



MATERIAL ALUMINUM ALLOY	PROTECTIVE FINISH ANODIZE
NO. OFF PER UNIT 1	TOTAL NO. OFF
DIMENSIONS IN mm.	SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:
 ± 0.5

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CEB OFFICE	1	27-8-9
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE	MASTHEAD JUNCTION BOX			DRAWING No. L.O.S./C5597	DETAIL 4

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

Technical drawing of a rectangular plate with the following specifications:

- Overall Dimensions:** 372 (width) x 282 (height).
- Inner Dimensions:** 300 (width) x 220.0 (height).
- Hole Specifications:**
 - HOLES 6.5 DIA (pointing to the top row of holes)
 - 2 HOLES 7 DIA (pointing to the bottom row of holes)
- Layout Details:**
 - 7 EQUAL PITCHES OF 60.0 = 350.0 (horizontal spacing for the top row of holes)
 - 4 EQUAL PITCHES OF 65.0 = 220.0 (vertical spacing for the inner rectangle)
 - 3 RADIUS (pointing to the corner radius of the inner rectangle)
 - 26 (dimension for the offset of the bottom row of holes from the left edge)
 - 11 (dimension for the offset of the bottom row of holes from the bottom edge)

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

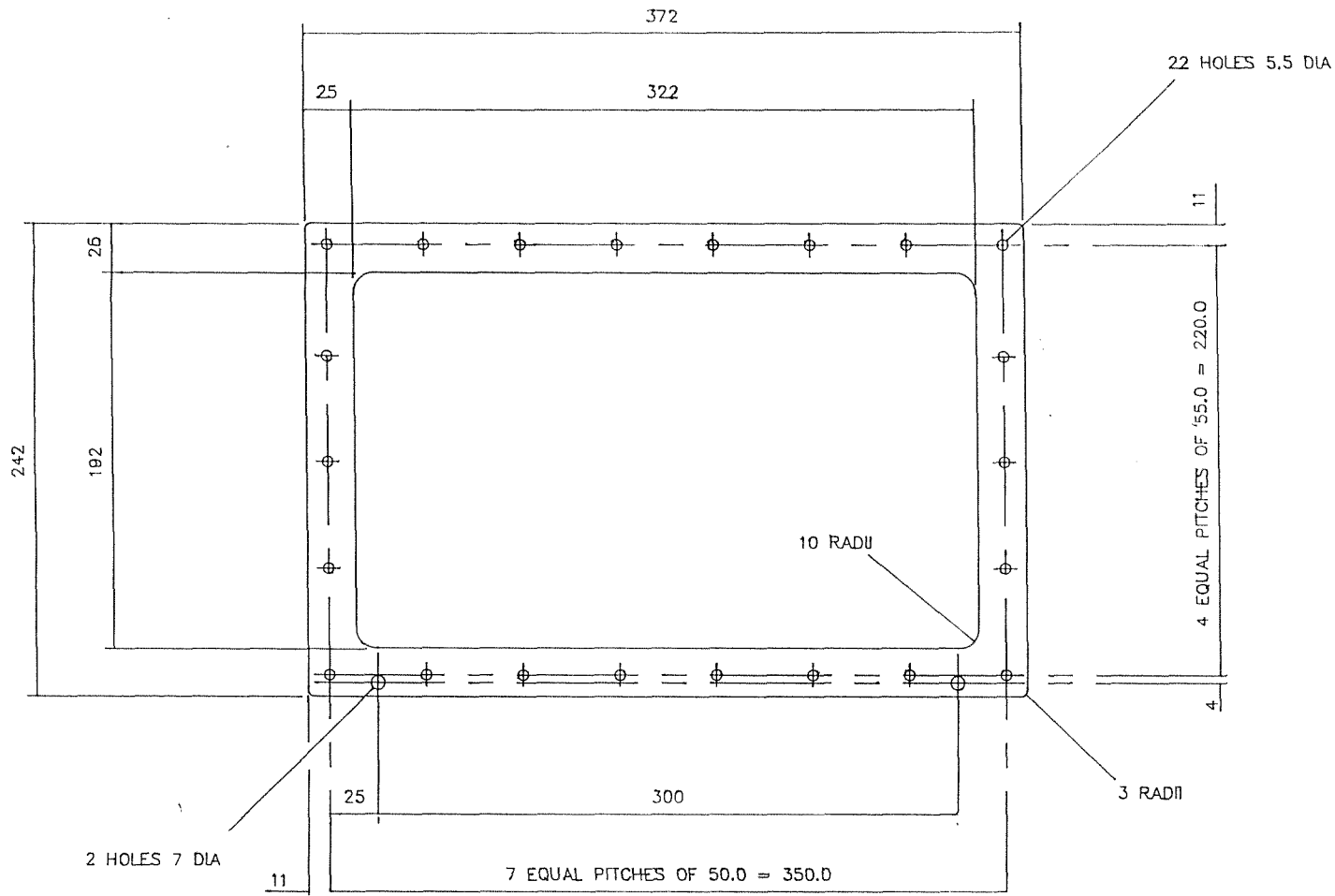
O/No. W/S	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED:	REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE						
CHECKED	ALUMINIUM ALLOY	ANODISE	± 0.5							
TRACED				AMENDMENT	ISSUE	DATE	RE-DRAWN ON COMPUTER	2	28-8-91	
DRAWN	No.OFF PER UNIT 1	TOTAL No.OFF	DO NOT SCALE	INSTITUTE OF OCEANOGRAPHIC SCIENCES						
NTTMMNS	DIMENSIONS IN m.m.	SCALE 1:2		TITLE	MASTHEAD JUNCTION BOX LD				DRAWING No. I.O.S./C5597	DETAIL 48
SIZE C										

DRAWING No. I.O.S./C5597
 DETAIL 49

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

NTIMMS

SIZE C

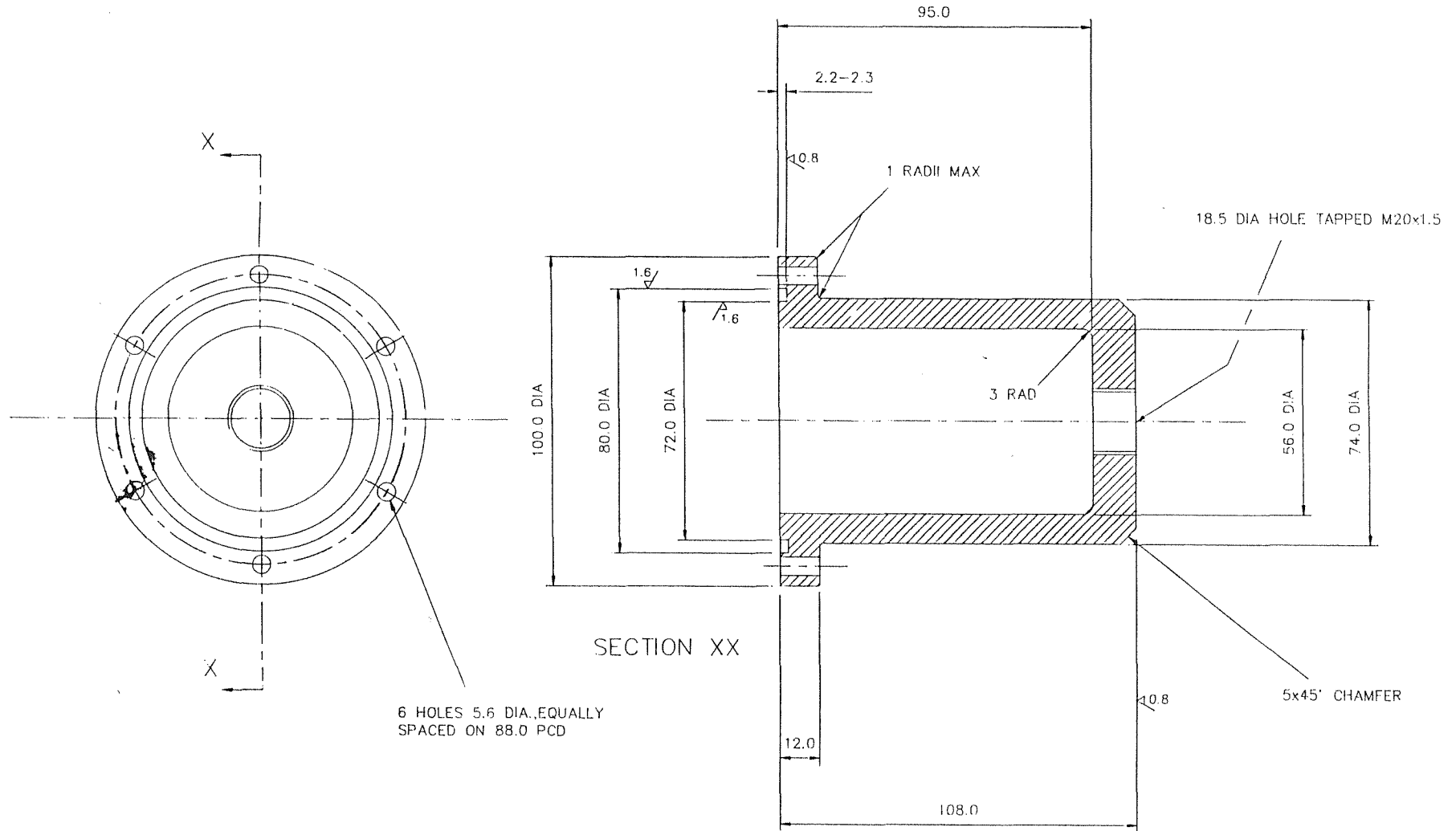
MATERIAL NEOPRENE 60-60 BSH	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 1								
						RE-DRAWN ON COMUTOR		2	28-8-91	
				AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE	
No.OFF PER UNIT 1	TOTAL No.OFF					CERTIFIED		1	6-6-91	
INSTITUTE OF OCEANOGRAPHIC SCIENCES										
DIMENSIONS IN m.m.	SCALE 1:2	DO NOT SCALE	TITLE MASTHEAD JUNCTION BOX GASKET				DRAWING No. I.O.S./C5597		DETAIL 49	

DRAWING No. I.O.S./C5597
 DETAIL 50

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



SECTION XX

6 HOLES 5.6 DIA. EQUALLY
 SPACED ON 88.0 PCD

O/No. W/S

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

CHECKED

MATERIAL POLYPROPYLENE
 PROTECTIVE FINISH

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED:

± 0.5

TRACED

No. OFF PER UNIT 1
 TOTAL No. OFF

DRAWN

DIMENSIONS IN m.m. SCALE 1:1

DO NOT SCALE

TITLE

TOP HAT FOR CONNECTOR SERIES 5

DRAWING No.

I.O.S./C5597

DETAIL

50

SIZE C

AMENDMENT

ISSUE

DATE

RE-DRAWN ON COMPUTER

2

1-8-91

AMENDMENT

ISSUE

DATE

CERTIFIED

1

6-6-91

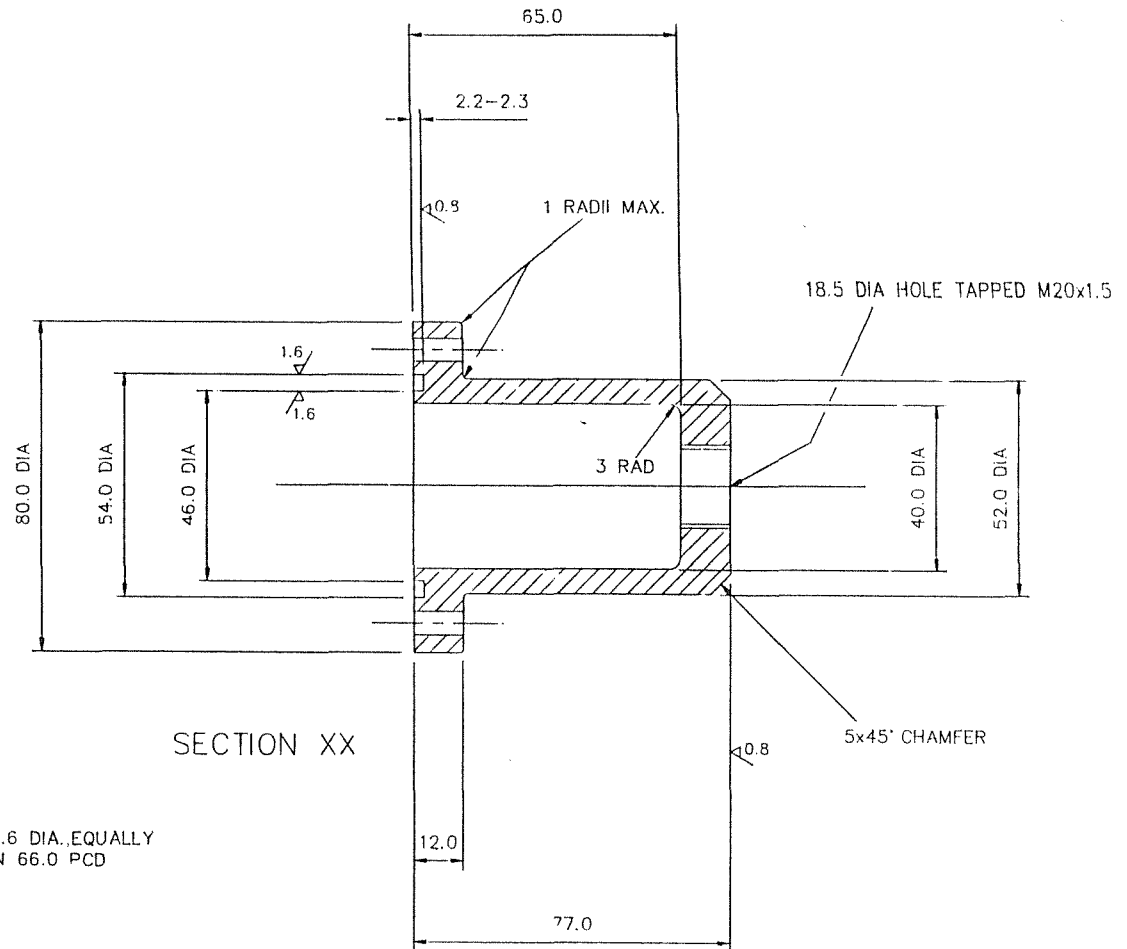
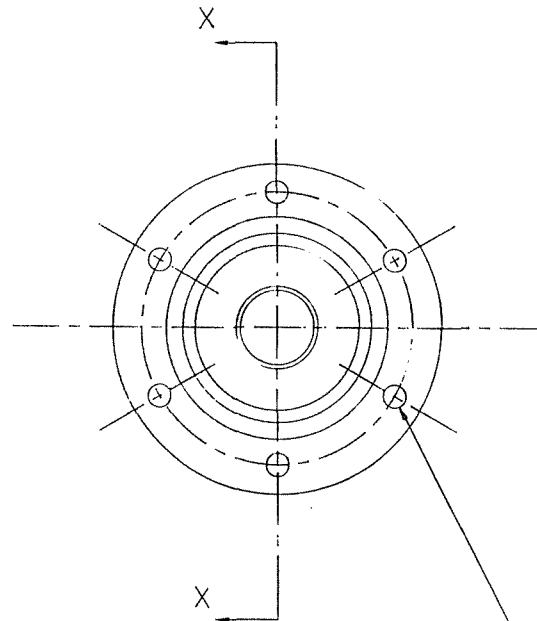
INSTITUTE OF OCEANOGRAPHIC SCIENCES

DRAWING No. I.O.S./C5597
 DETAIL 51

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

NTTIMMINS

MATERIAL POLYPROPYLENE	PROTECTIVE FINISH
No.OFF PER UNIT 2	TOTAL No.OFF
DIMENSIONS IN m.m.	SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE OTHERWISE STATED:

± 0.5

DO NOT SCALE

AMENDMENT	ISSUE	DATE	RE-DRAWN ON COMPUTER	2	1-8-91
			AMENDMENT	ISSUE	DATE
			CERTIFIED	1	6-6-91
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE TOP HAT FOR CONNECTOR SERIES 4			DRAWING No. I.O.S./C5597 DETAIL 51		

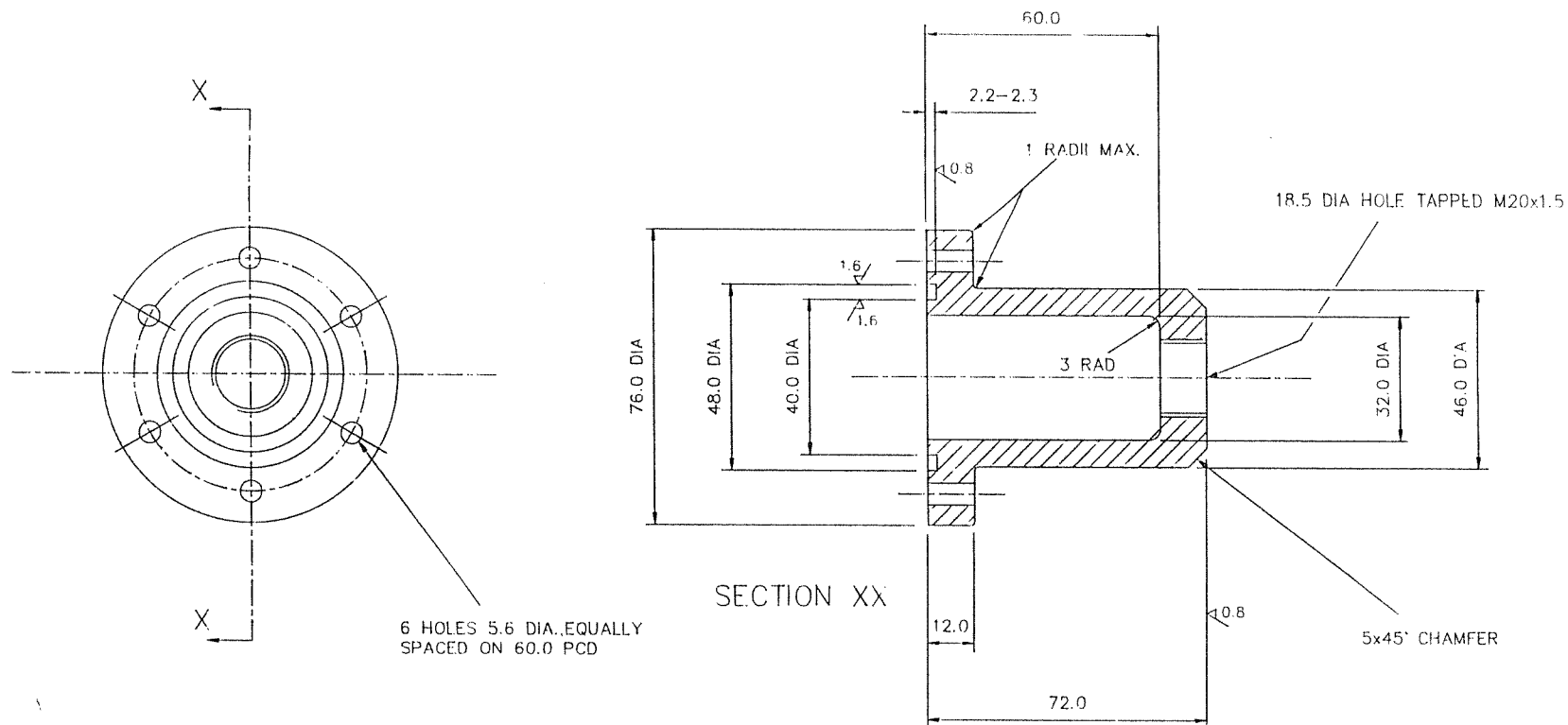
SIZE C

DRAWING No. I.O.S./C5597
DETAIL 52

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S. 308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

NTTMMNS

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

MATERIAL
POLYPROPYLENE

PROTECTIVE FINISH

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 0.5

DO NOT SCALE

AMENDMENT

ISSUE

DATE

RE-DRAWN ON COMPUTER

2

2-8-91

AMENDMENT

ISSUE

DATE

CERTIFIED

1

7-6-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

TOP HAT FOR CONNECTOR SERIES 3

DRAWING No.

I.O.S./C5597

DETAIL

52

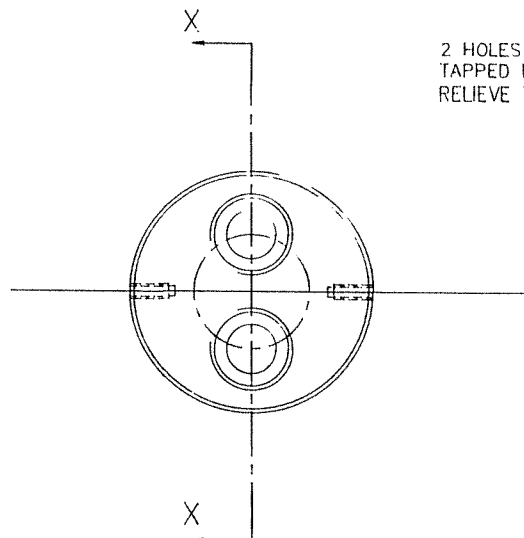
SIZE C

DRAWING No. I.O.S./C5597
 DETAIL 53

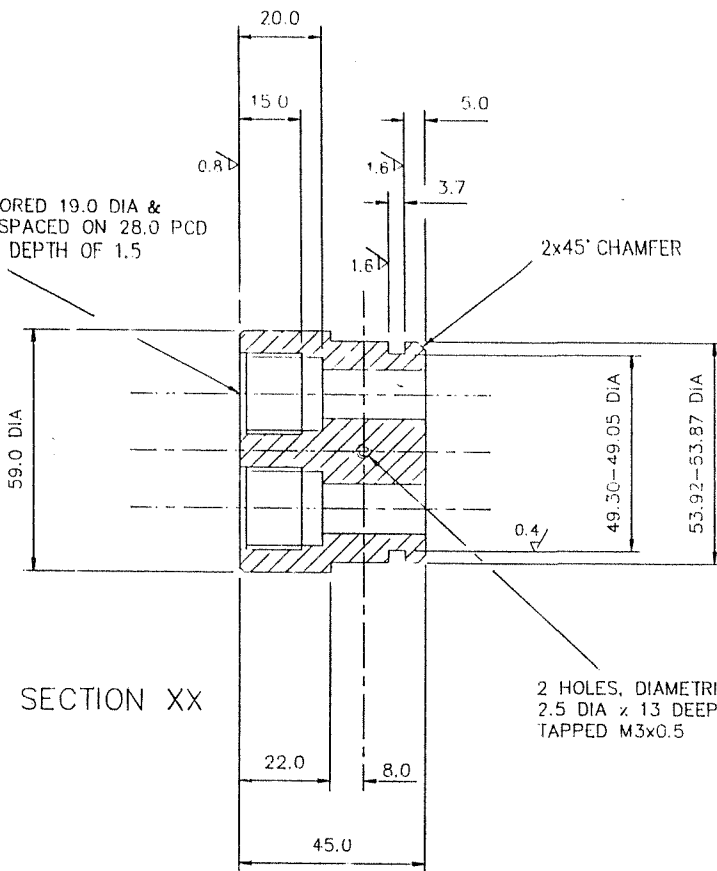
THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



2 HOLES 12.0 DIA. C-BORED 19.0 DIA & TAPPED M20x1, EQUI-SPACED ON 28.0 PCD RELIEVE THREADS FOR DEPTH OF 1.5



SECTION XX

2 HOLES, DIAMETRICALLY OPPOSITE, 2.5 DIA x 13 DEEP TO DP & TAPPED M3x0.5

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

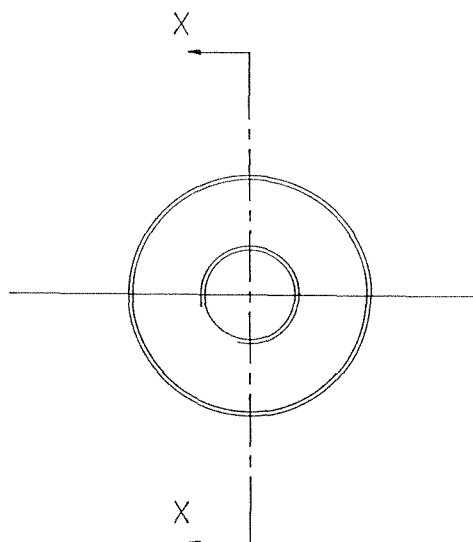
0/No. W/S	MATERIAL ALUMINUM ALLOY HE30	PROTECTIVE FINISH ANODISE	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.5	AMENDMENT	ISSUE	DATE	DRAWN ON COMPUTER	2	6-8-91
CHECKED							AMENDMENT	ISSUE	DATE
TRACED	No. OFF PER UNIT 1	TOTAL No. OFF					CERTIFIED	1	10-6-91
DRAWN NTTIMMINS	DIMENSIONS IN m.m.	SCALE 1:1	DO NOT SCALE	INSTITUTE OF OCEANOGRAPHIC SCIENCES					
SIZE C	TITLE ANEMOMETER BASE ADAPTER.						DRAWING No. I.O.S./C5597	DETAIL 53	

DRAWING No. I.O.S./ C5597
 DETAIL 54

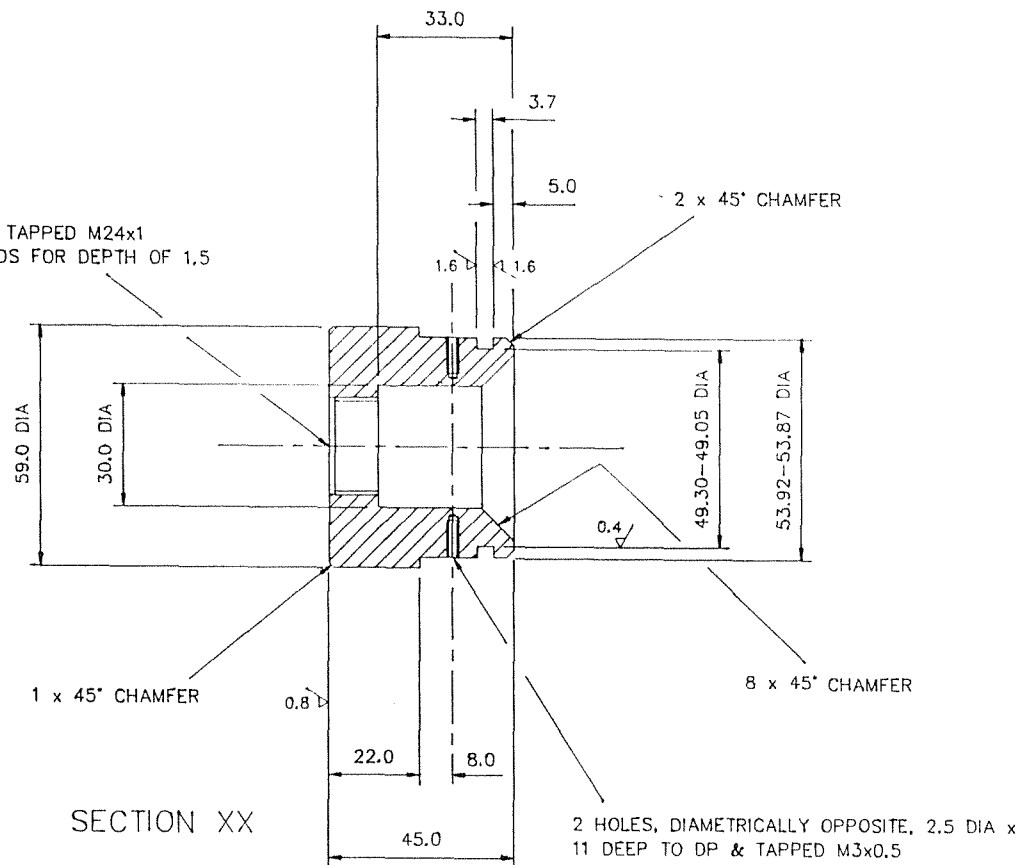
THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



23.0 DIA HOLE TAPPED M24x1
 RELIEVE THREADS FOR DEPTH OF 1.5



O/No. W/S

CHECKED

TRACED

DRAWN

NTTIMINS

MATERIAL	ALUMINIUM ALLOY HE30	PROTECTIVE FINISH	ANODISE
No.OFF PER UNIT	2	TOTAL No.OFF	
DIMENSIONS IN m.m.	SCALE 1:1		

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE OTHERWISE STATED:

± 0.5

DO NOT SCALE

AMENDMENT	ISSUE	DATE	DRAWN ON COMPUTER	2	7-8-91
			AMENDMENT	ISSUE	DATE
			CERTIFIED	1	10-6-91
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE DCPA BASE ADAPTER			DRAWING No. I.O.S./ C5597		
			DETAIL 54		

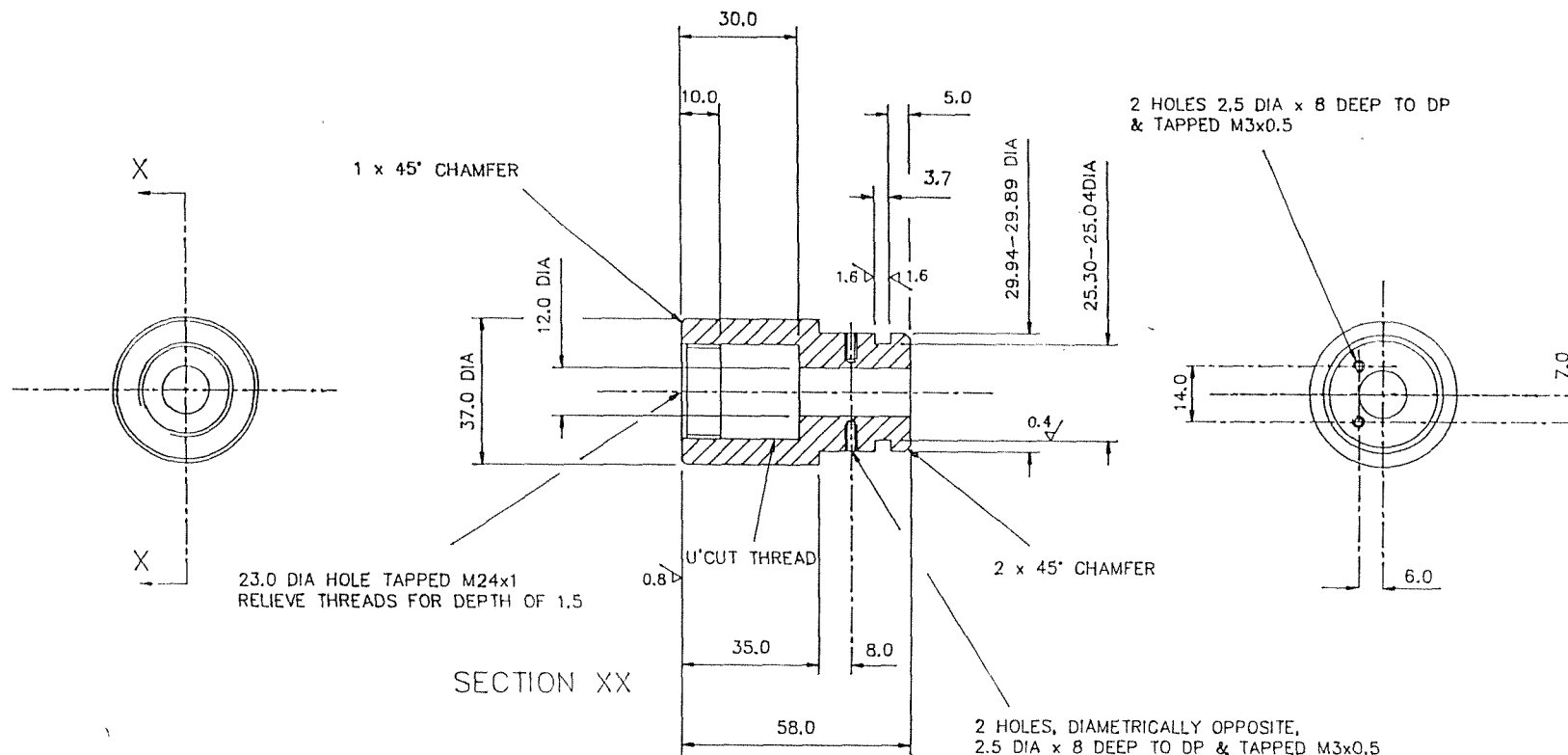
SIZE C

DRAWING No. I.O.S./C5597
 DETAIL 55

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

NTTIMINS

MATERIAL
ALUMINIUM ALLOY
HE30

PROTECTIVE FINISH
ANODISE

No.OFF
PER UNIT 2

TOTAL
No.OFF

DIMENSIONS IN m.m.

SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 0.5

DO NOT SCALE

AMENDMENT

ISSUE

DATE

RE-DRAWN ON COMPUTER

2

8-8-91

AMENDMENT

ISSUE

DATE

CERTIFIED

1

11-6-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

ANEMOMETER TUBE ADAPTER PLUG

DRAWING No.

I.O.S./C5597

DETAIL

55

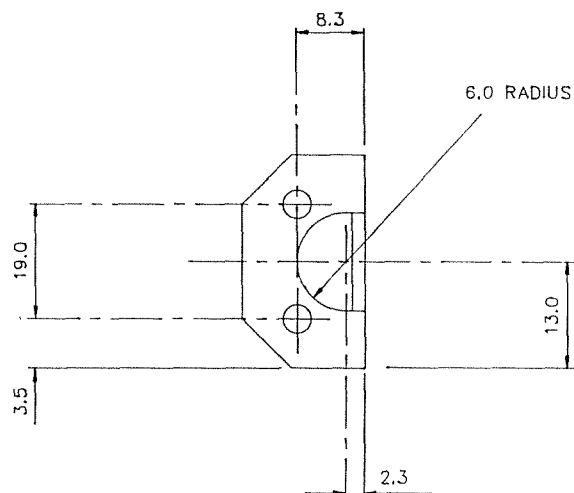
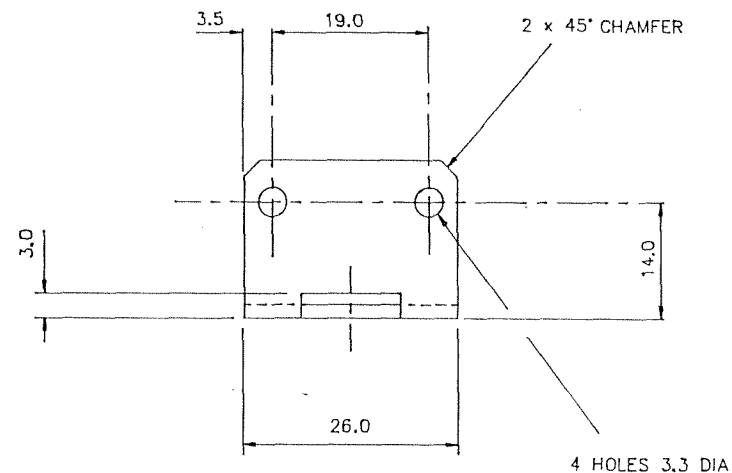
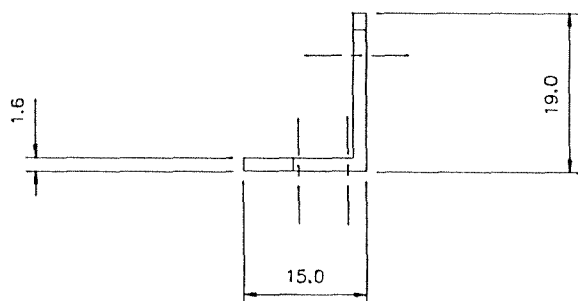
SIZE C

DRAWING No. I.O.S./C5597
 DETAIL 56

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

O/No. w/S	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED:							
CHECKED	ALUMINIUM ALLOY	ANODISE	± 0.5	AMENDMENT	ISSUE	DATE	RE-DRAWN ON COMPUTER	2	9-8-91	
TRACED	No.OFF PER UNIT 1	TOTAL No.OFF					AMENDMENT	ISSUE	DATE	
DRAWN	DIMENSIONS IN m.m.	SCALE 2:1	DO NOT SCALE				CERTIFIED	1	21-6-91	
NTTIMMINS										
SIZE C										

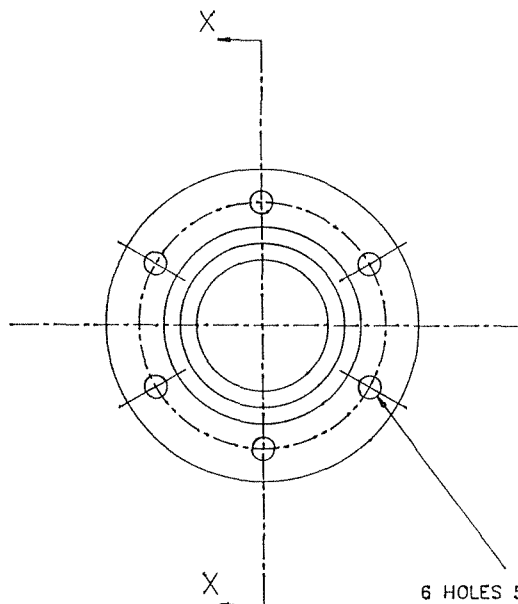
INSTITUTE OF OCEANOGRAPHIC SCIENCES
 TITLE PCB BRACKET
 DRAWING No. I.O.S./C5597
 DETAIL 56

DRAWING No. I.O.S./C5597
 DETAIL 57

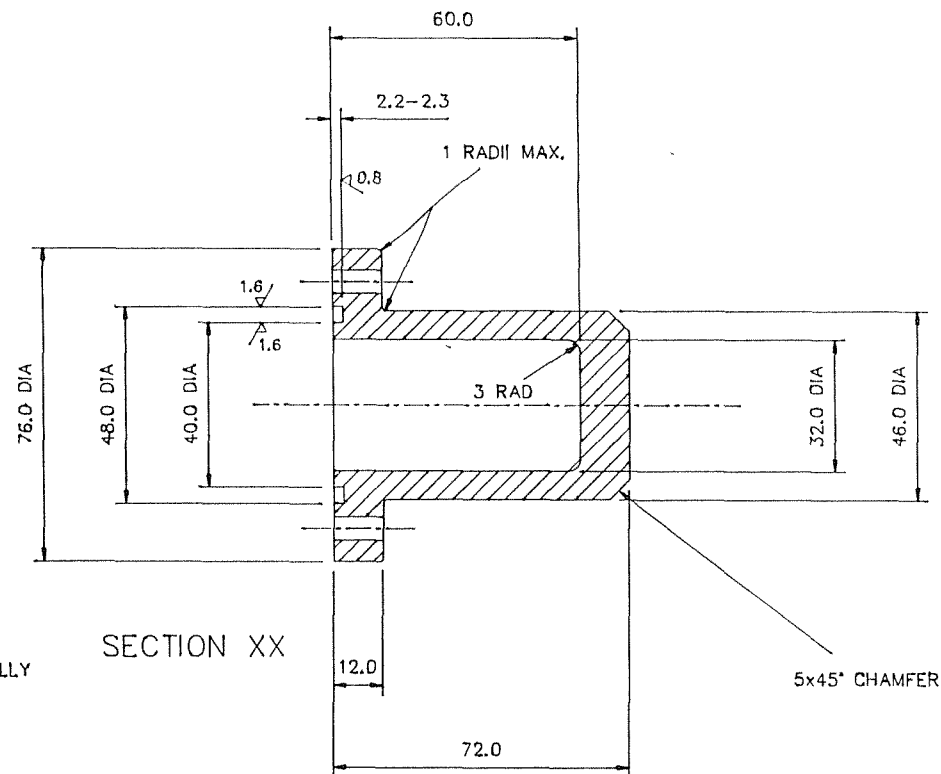
THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



6 HOLES 5.6 DIA.,EQUALLY
 SPACED ON 60.0 PCD



SECTION XX

5x45° CHAMFER

O/No. W/S

CHECKED

TRACED

DRAWN

NTTIMMINS

MATERIAL POLYPROPYLENE	PROTECTIVE FINISH
No.OFF PER UNIT 1	TOTAL No.OFF
DIMENSIONS IN m.m.	SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED:

± 0.5

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

ISSUE

DATE

CERTIFIED

1

2-8-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

COVER FOR CONNECTOR SERIES 3

DRAWING No.

I.O.S./C5597

DETAIL

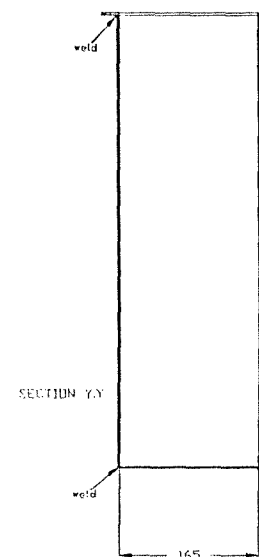
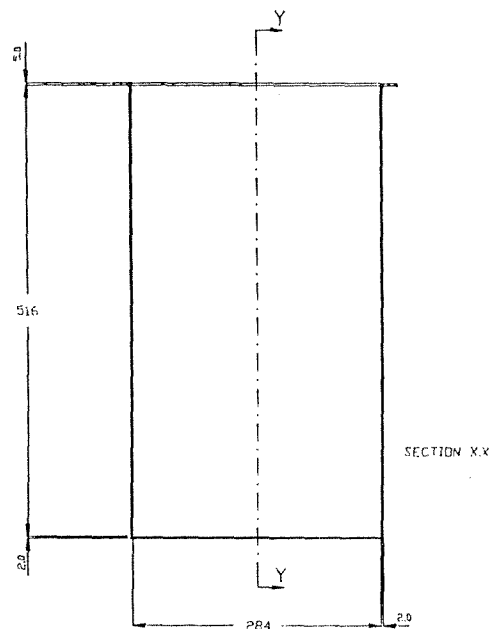
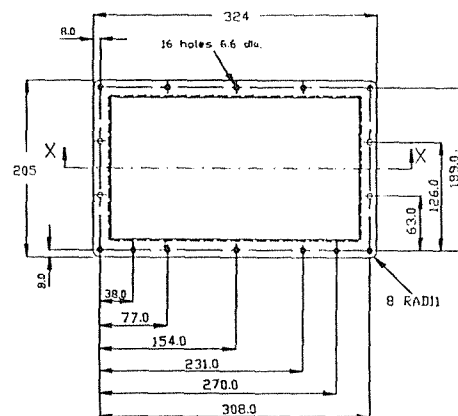
57

SIZE C

DETAIL
60

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

Q/No. W/S	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED						
CHECKED	ALUMINIUM ALLOY HE-30	ANODISE	±0.5	AMENDMENT	ISSUE	DATE	WAS 322x202, NDW324x205 0/ALL	2	5-6-91
TRACED	No.OFF PER UNIT 1	TOTAL No.OFF					AMENDMENT CERTIFIED	ISSUE	DATE
DRAWN	DIMENSIONS IN m.m.	SCALE	DO NOT SCALE	INSTITUTE OF OCEANOGRAPHIC SCIENCES					
NTTIMINS	SIZE C			TITLE METEOSAT BOX			DRAWING No. 10.S./C5597 DETAIL 60		

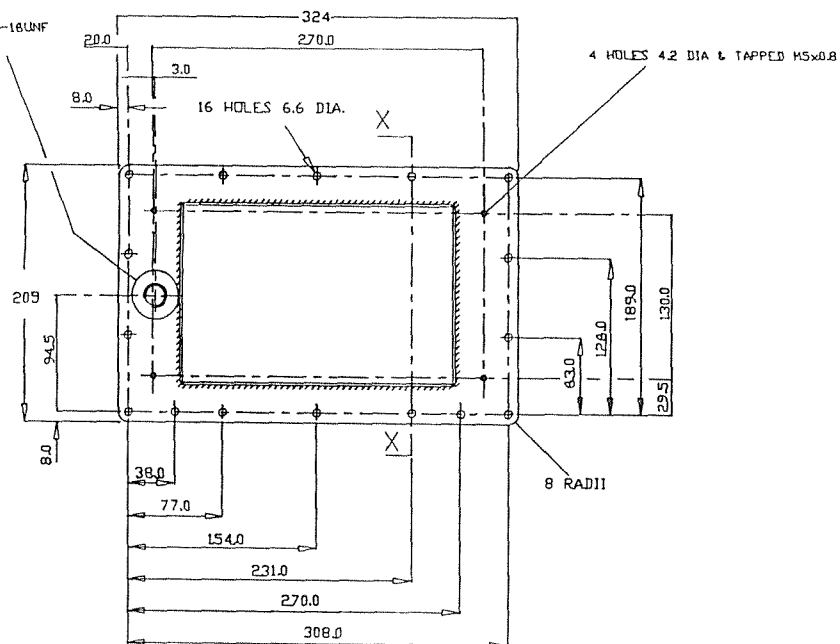
DRAWING No. I.O.S./ C5597
DETAIL 61

THIRD ANGLE PROJECTION

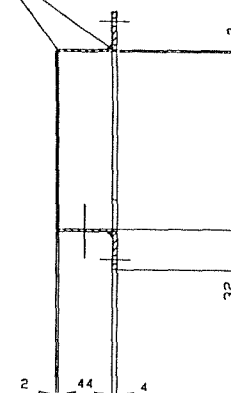
FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc, SEE B.S.308.

USED ON

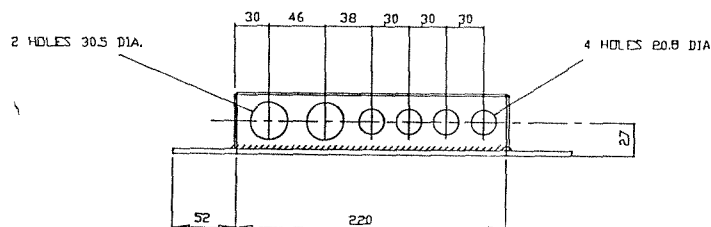
17.5 DIA. HOLE, TAP 3/4-18 UNF
& SPOT-FACED 38 DIA



3 MAX FILLET WELDS



SECTION XX



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

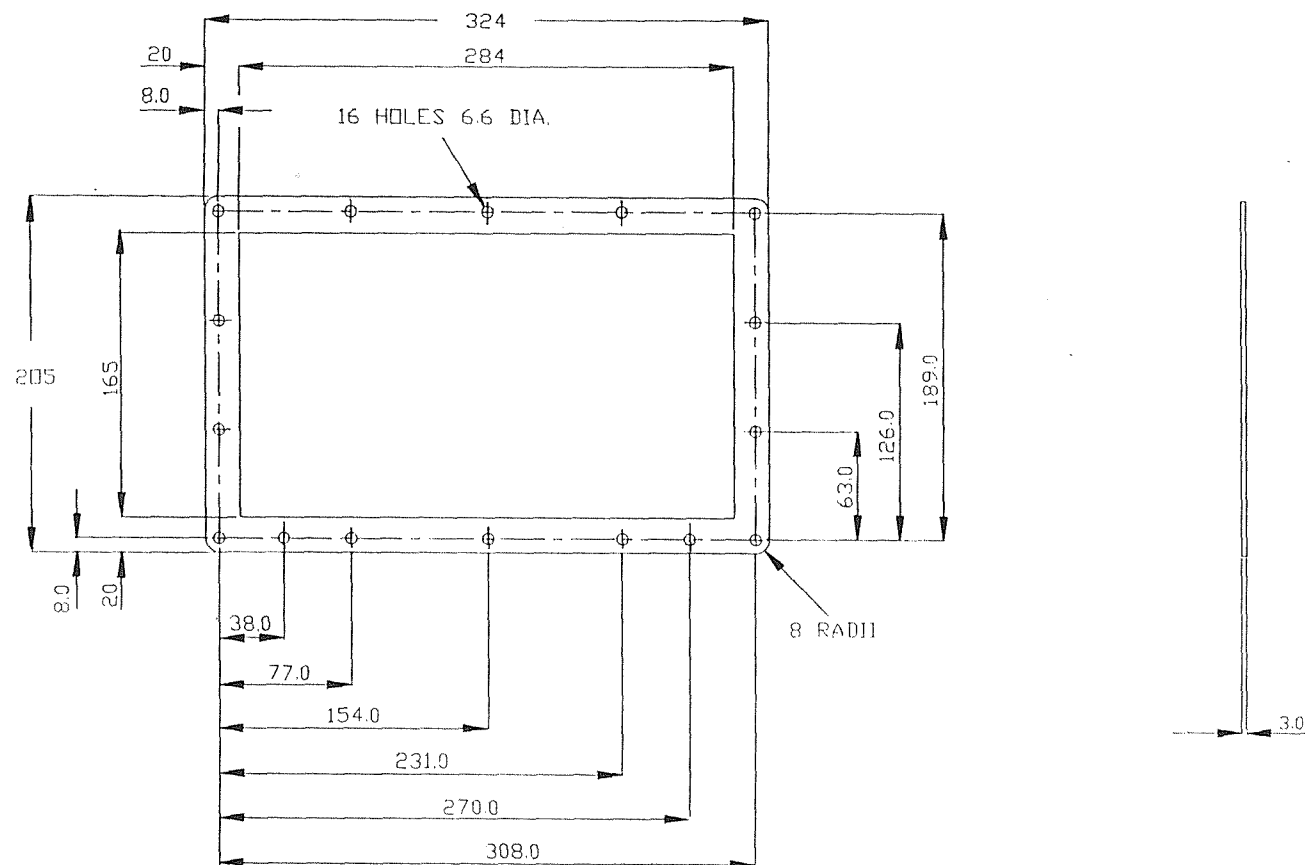
Q/No. V/S	MATERIAL ALUMINIUM ALLOY HE-30	PROTECTIVE FINISH ANODISE	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ±0.5	TOP-HAT SECTION ADDED WAS 322x202, NOW 324x205	3	5-6-91
CHECKED				HEIGHT REDUCED BY 13, 4 HOLES 20.5 DIA	4	20-8-91
TRACED	No.OFF PER UNIT 1	TOTAL No.OFF		AMENDMENT	ISSUE	DATE
DRAWN NITUMINS	DIMENSIONS IN mm	SCALE	DO NOT SCALE	AMENDMENT	ISSUE	DATE
SIZE C				INSTITUTE OF OCEANOGRAPHIC SCIENCES		
				TITLE	DRAWING No.	DETAIL
				METEOSAT BOX LID	I.O.S./ C5597	61

DETAIL
62

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON

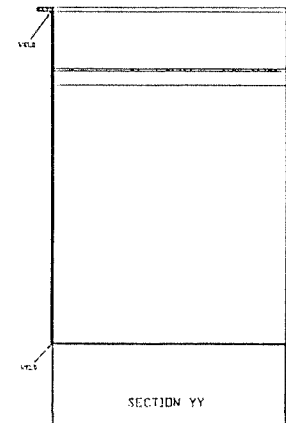
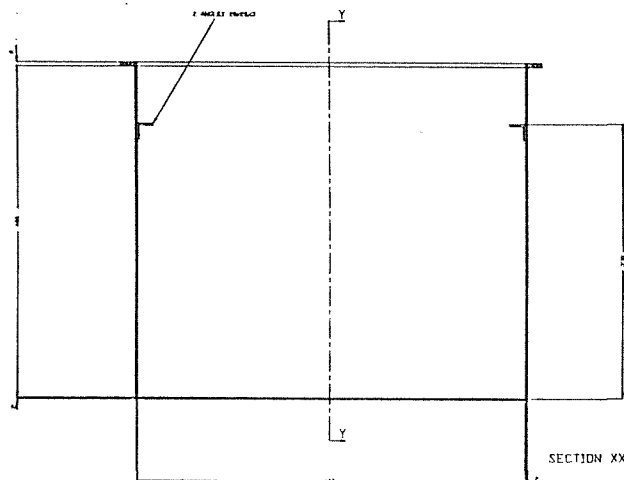
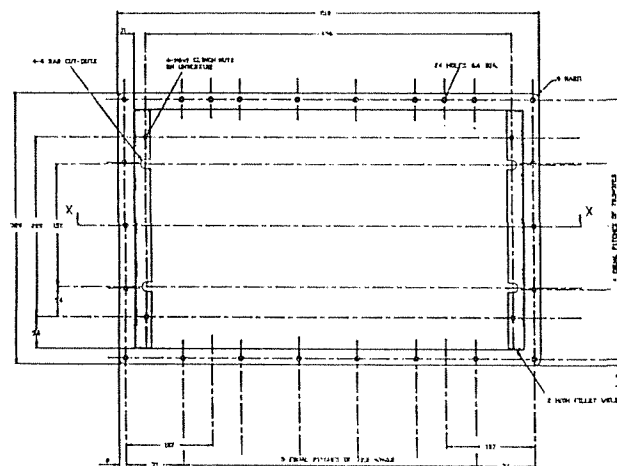


REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

D/No. W/S	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ±1	REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE					
CHECKED	NEOPRENE 40-50 BSH						WAS 322x202, NOW 324x205	2	5-6-91
TRACED				AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
	No.OFF PER UNIT 1	TOTAL No.OFF					CERTIFIED	1	18-4-91
DRAWN				INSTITUTE OF OCEANOGRAPHIC SCIENCES					
NTTIMINS	DIMENSIONS IN m.m.	SCALE	DO NOT SCALE	TITLE			DRAWING No. DETAIL		
				METEOSAT BOX GASKET			I.O.S./C5597 62		

SIZE C

USED ON



□/No.	W/S
-------	-----

CHECKED

TRACED

DRAWN

NTTIMMINS

MATERIAL ALUMINIUM ALLOY HE-30	PROTECTIVE FINISH ANODISE
No.OFF PER UNIT 1	TOTAL No.OFF
DIMENSIONS IN m.m.	SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

 ± 0.5

DO NOT SCALE

			DRAWING RE-NUMBERED. WAS C5597 43	2	5-6-91
AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	2-5-91
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE C.P.U. HOUSING BOX			DRAWING No. DETAIL I.O.S./ C5597 63		

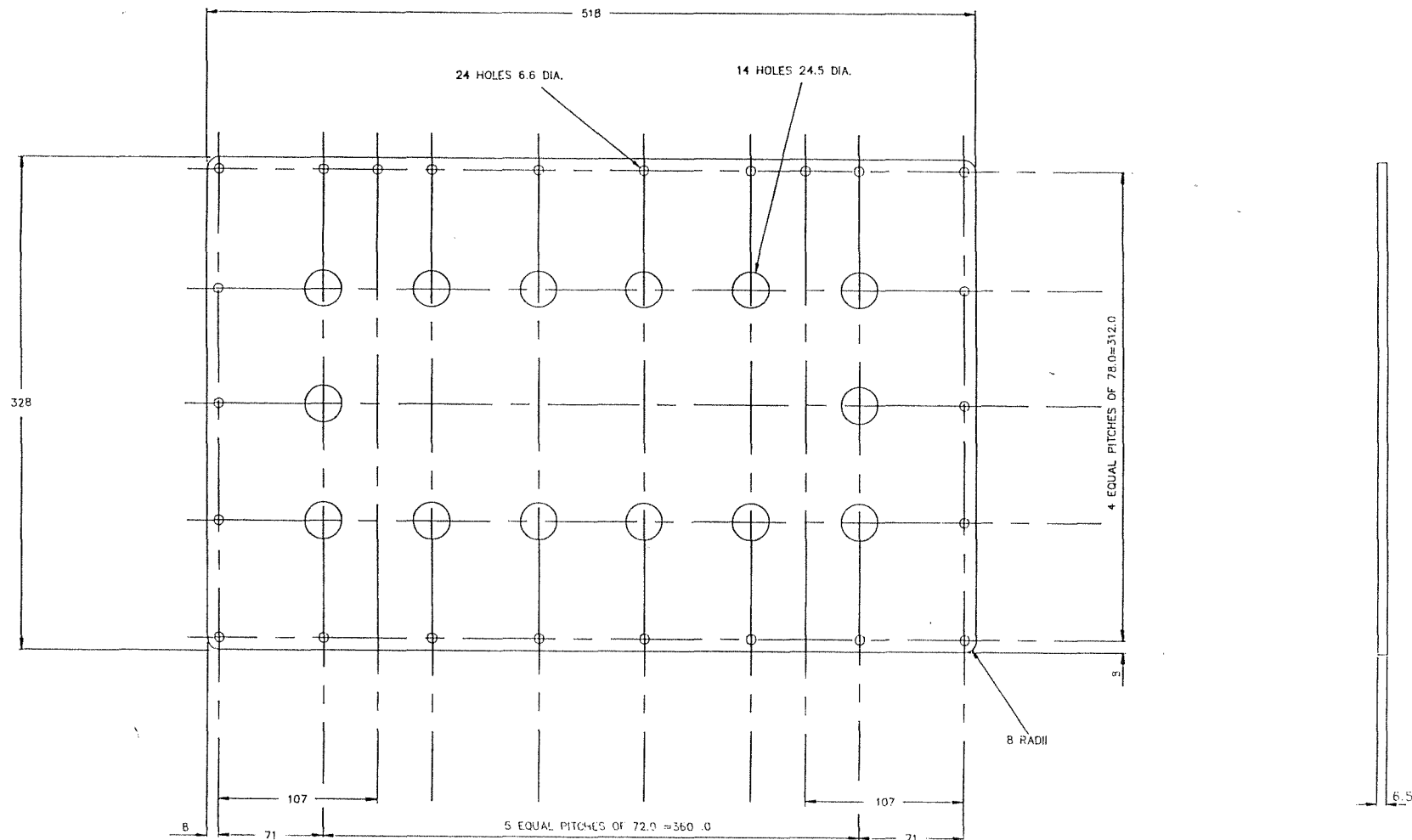
SIZE C

DRAWING No. I.O.S./C5597
DETAIL 64

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

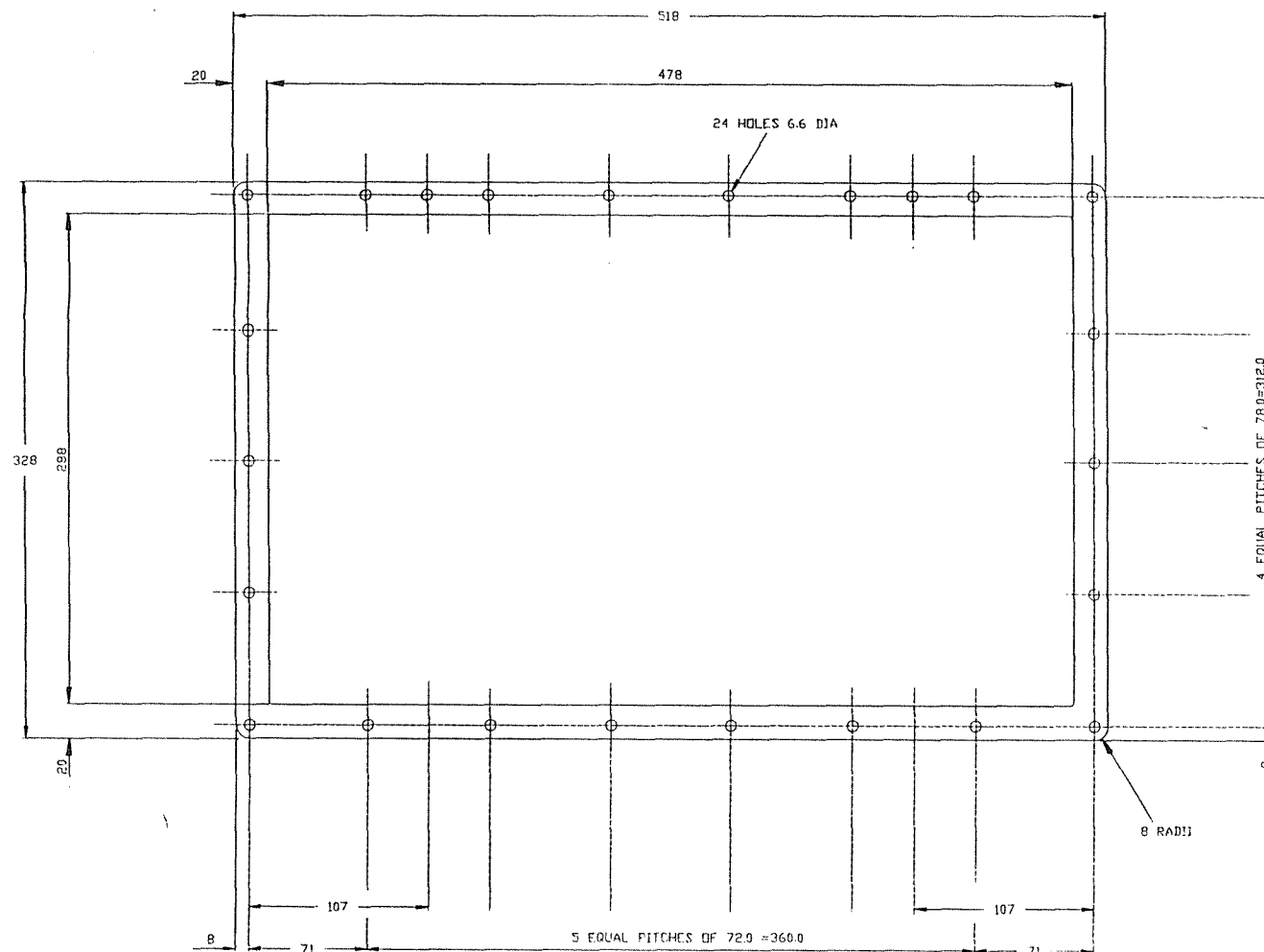
O/No. W/S	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED:	AMENDMENT	ISSUE	DATE	14 x 24.5 DIA. HOLES ADDED	3	11-7-91
CHECKED	ALUMINIUM ALLOY HE-30	ANODISE	±0.5				DRAWING RE-NUMBERED. WAS C5597 44	2	5-6-91
TRACED	No. OFF PER UNIT 1	TOTAL No. OFF					AMENDMENT	ISSUE	DATE
DRAWN NTIMMINS	DIMENSIONS IN m.m.	SCALE	DO NOT SCALE				CERTIFIED	1	7-5-91
SIZE C					INSTITUTE OF OCEANOGRAPHIC SCIENCES				
				TITLE C.P.U. HOUSING LID			DRAWING No. I.O.S./C5597		
							DETAIL 64		

DRAWING No. I.O.S./ C5597
 DETAIL 65

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

Q/No. W/S	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED:	AMENDMENT	ISSUE	DATE	DRAWING RE-NUMBERED. WAS C5597 45	2	5-6-91
CHECKED	NEOPRENE 40-50 BSH		±1				AMENDMENT	ISSUE	DATE
TRACED							CERTIFIED	1	7-5-91
DRAWN	No.OFF PER UNIT 1	TOTAL No.OFF		INSTITUTE OF OCEANOGRAPHIC SCIENCES					
NTTIMINS	DIMENSIONS IN m.m.	SCALE	DO NOT SCALE	TITLE C.P.U. HOUSING GASKET			DRAWING No. I.O.S./C5597		
							DETAIL 65		

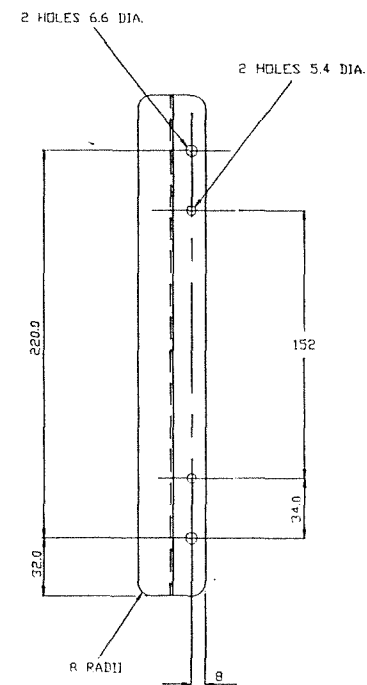
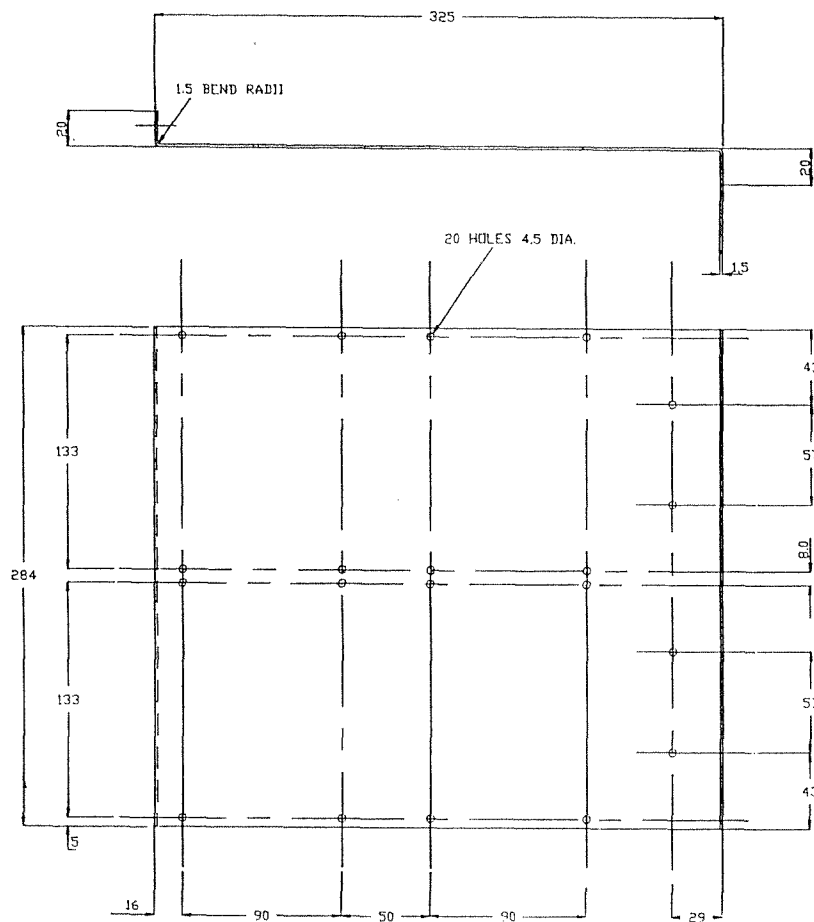
SIZE C

DRAWING No. I.O.S./C5597
DETAIL 66

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

Q/No. W/S

CHECKED

TRACED

DRAWN

NTTIMINS

MATERIAL
ALUMINIUM ALLOY
HE-30

PROTECTIVE FINISH

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

±0.5

No.OFF
PER UNIT 2

TOTAL
No.OFF

DIMENSIONS IN m.m.

SCALE

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

CERTIFIED

ISSUE

DATE

1

13-5-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

PCB CHASSIS SIDE PLATE

DRAWING No.

I.O.S./C5597

DETAIL

66

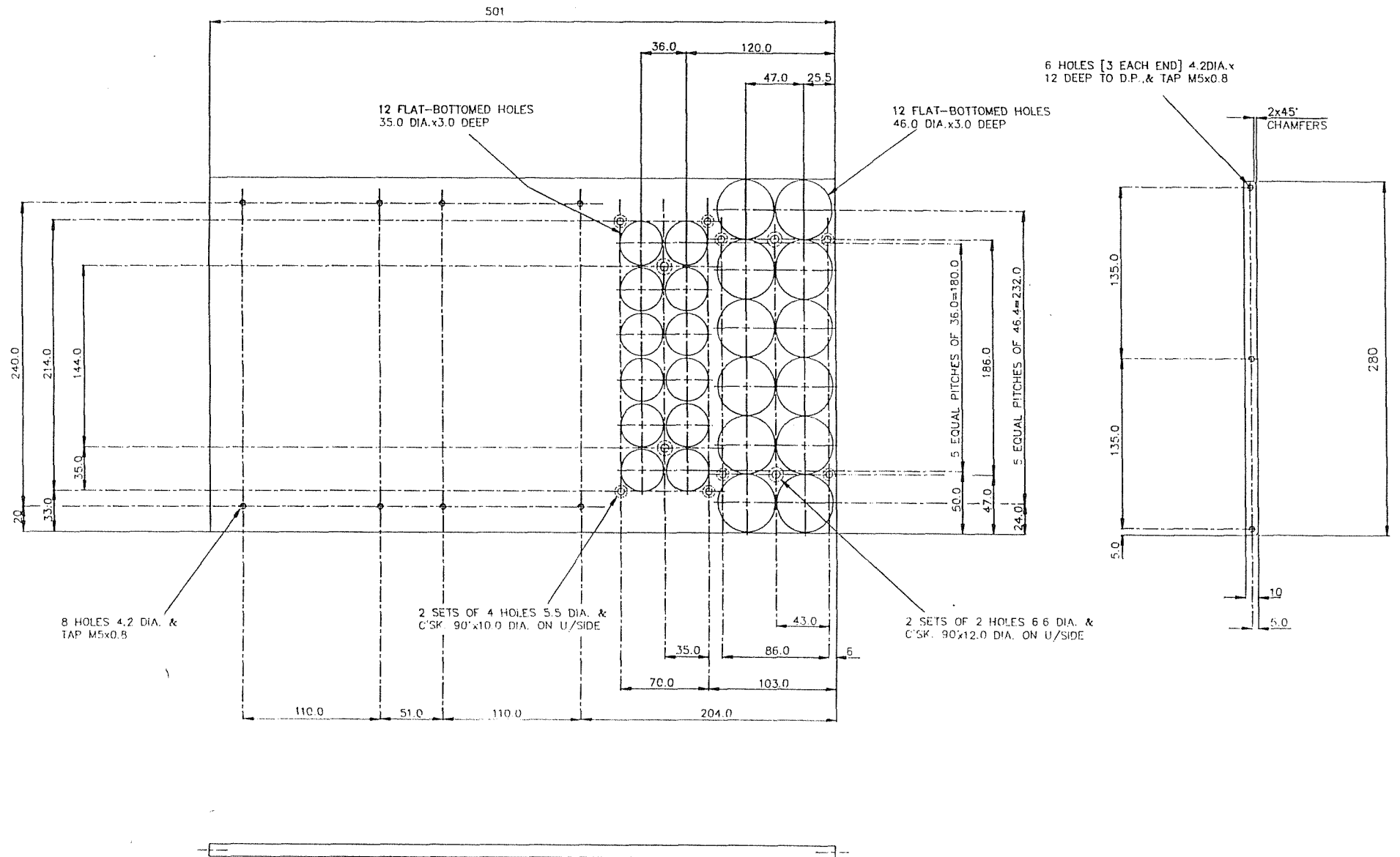
SIZE C

DRAWING No. I.O.S./C5597 67

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



C/Nr. W/D
CHECKED
TRACED
DRAWN
SIZE A

MATERIAL ALUMINIUM ALLOY	PROTECTIVE FINISH ANODISE
No. OF PER UNIT 1	TOTAL No. OF 1
DIMENSIONS IN m.m.	SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE			
TOLERANCE EXCEPT WHERE OTHERWISE STATED.			
± 0.5			
DO NOT SCALE			

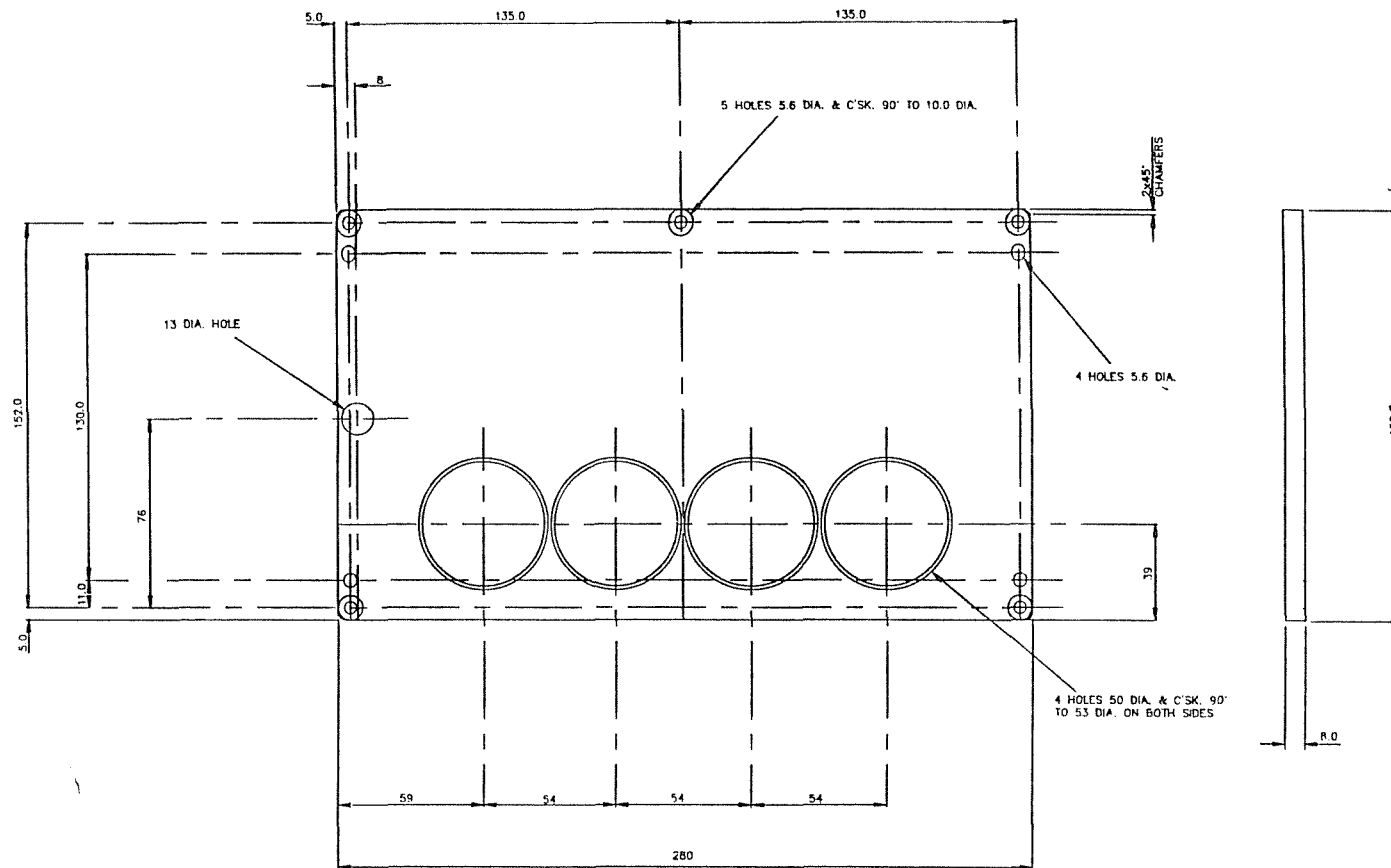
AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE BASE PLATE					
DRAWING No. I.O.S./C5597 67					

DRAWING No. I.O.S. / C5597
DETAIL 68

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

NTIMMINS

SIZE D

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

MATERIAL
ALUMINIUM ALLOY

PROTECTIVE FINISH
ANODISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 0.5

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

ISSUE

DATE

CERTIFIED

1

5-6-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

TOP PLATE

DRAWING No.

DETAIL

I.O.S. / C5597

68

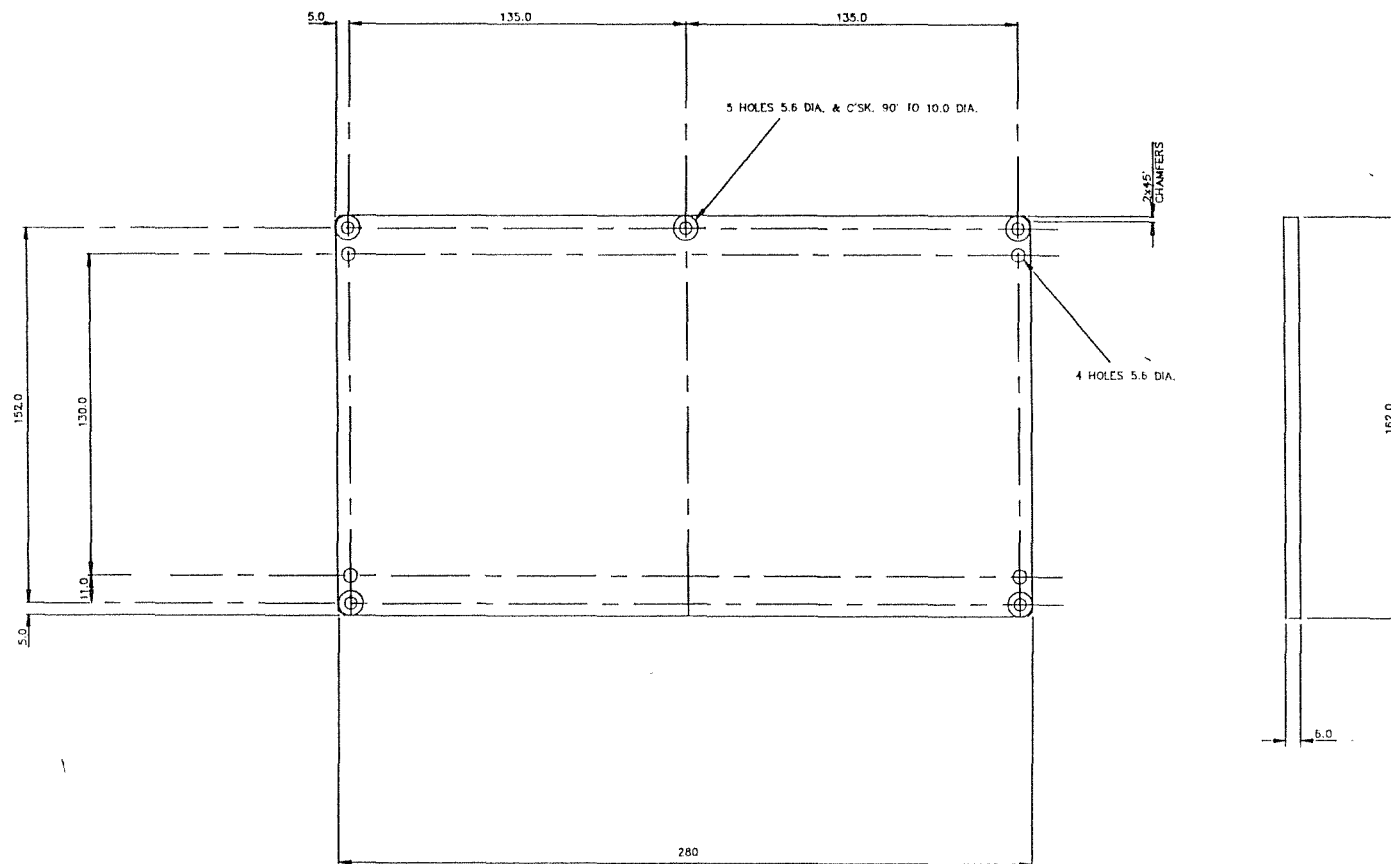
DRAWING No.	DETAIL
I.O.S. / C5597	69

DETAIL
69

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



0/No. W/S

CHECKED

TRACED

DRAWN

SIZE D

MATERIAL	ALUMINIUM ALLOY
----------	-----------------

PROTECTIVE FINISH
ANODISE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED.

 ± 0.5

No.OFF	
PER UNIT	1

TOTAL	
No.OFF	

DIMENSIONS IN m.m.

SCALE

DO NOT SCALE

AMENDMENT

ISSUE	
-------	--

DATE _____

AMENDMENT

ISSUE	
-------	--

DATE	
------	--

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

BOTTOM PLATE

DRAWING No.

DETAIL

I.O.S. / C5597

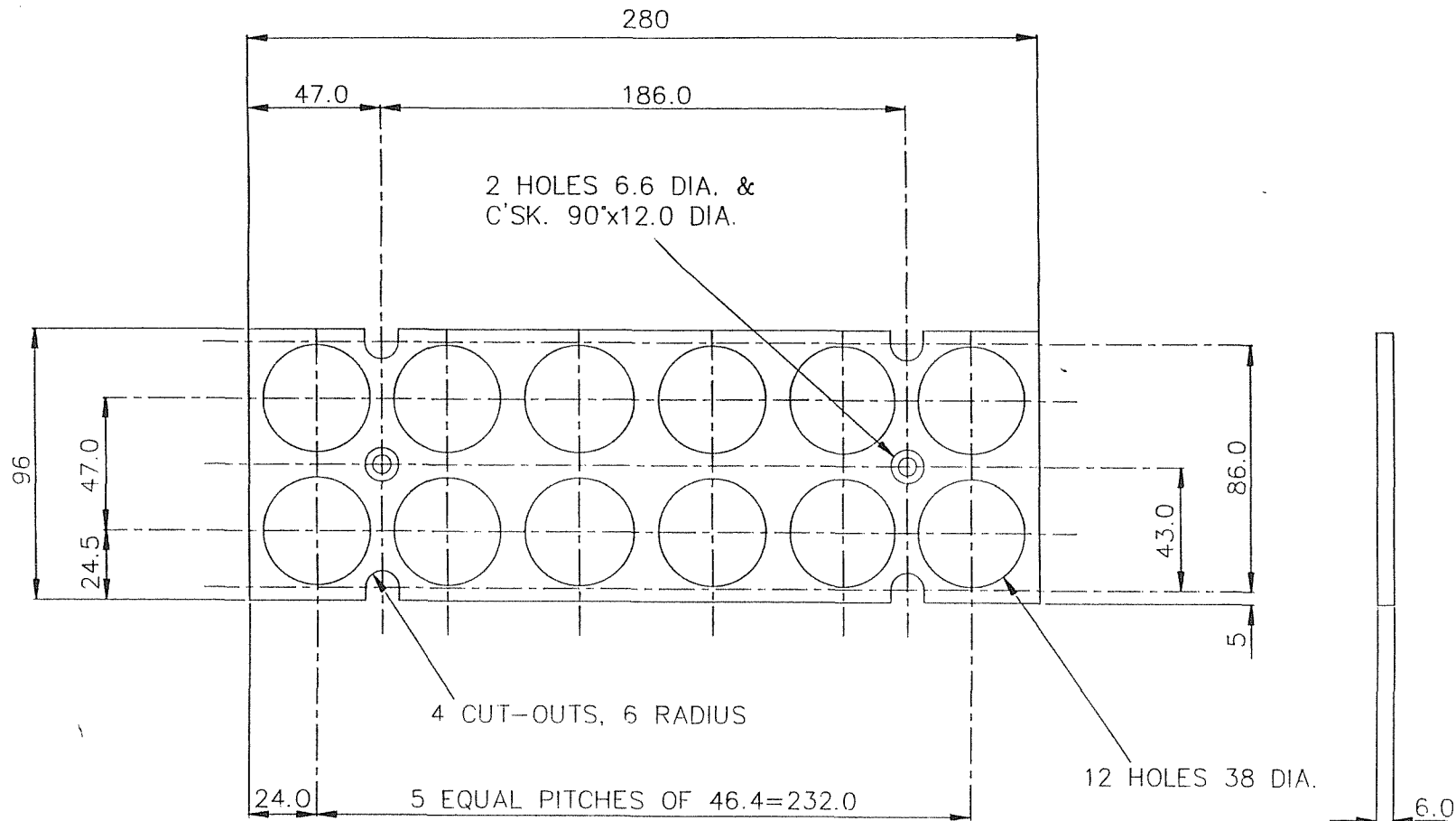
69

DRAWING No. I.O.S./ C5597
 DETAIL 70

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

NTTIMINS

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

MATERIAL RIGID PVC	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED:							
No.OFF PER UNIT 1	TOTAL No.OFF	± 0.5	AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE	
DIMENSIONS IN m.m.	SCALE	DO NOT SCALE				CERTIFIED	1	6-6-91	
INSTITUTE OF OCEANOGRAPHIC SCIENCES									
TITLE BATTERY PLATE-A							DRAWING No. I.O.S./C5597		
							DETAIL 70		

SIZE C

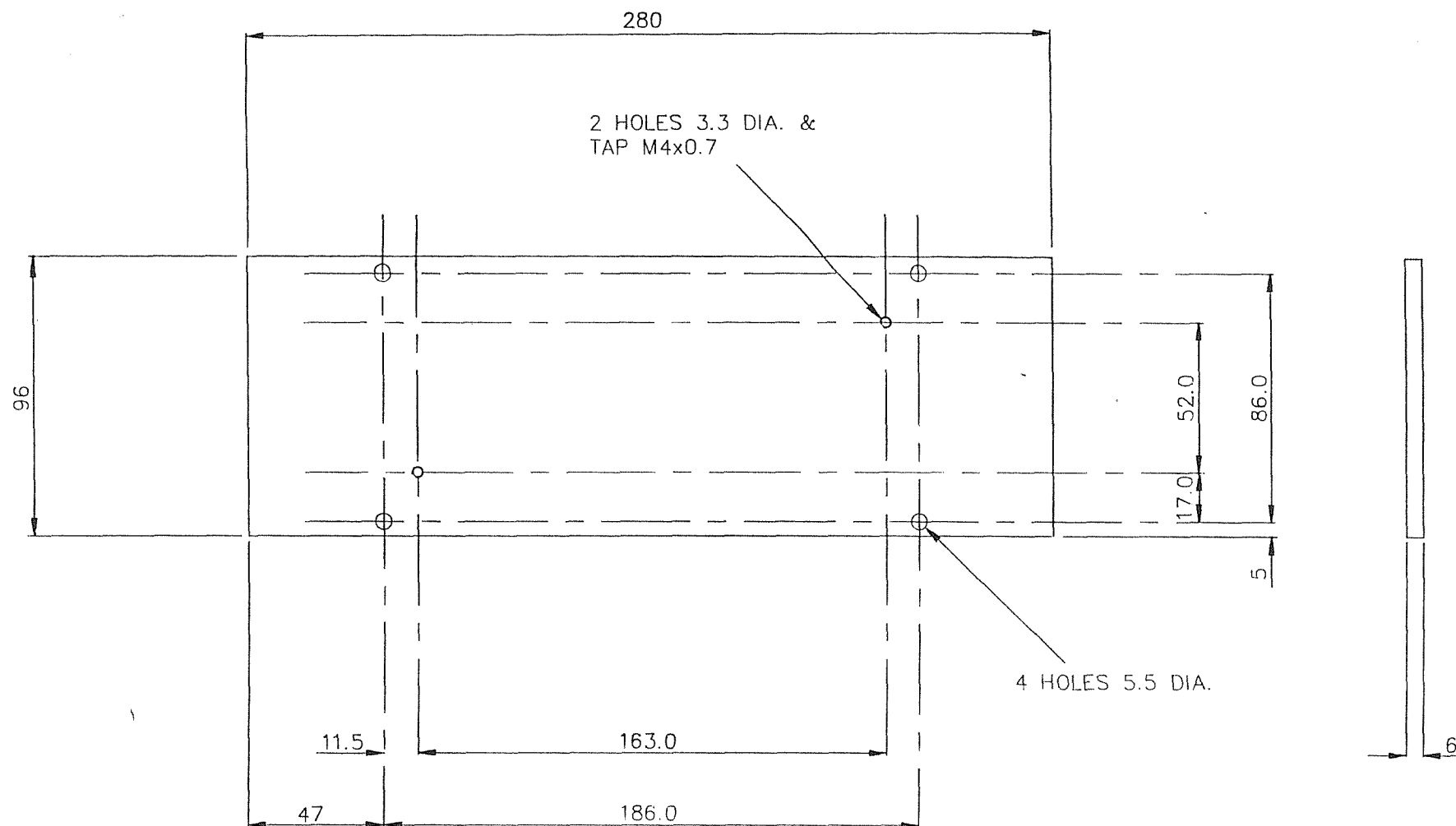
SIZE C

DRAWING No. I.O.S./C5597
 DETAIL 72

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

NTTIMINS

MATERIAL RIGID PVC	PROTECTIVE FINISH
No.OFF PER UNIT 1	TOTAL No.OFF
DIMENSIONS IN m.m.	SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 0.5

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	7-6-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE	DRAWING No.	DETAIL
ARGOS MOUNTING PLATE	I.O.S./C5597	72

SIZE C

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

6

MATERIAL RIGID PVC	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.5						
			AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
No. OFF PER UNIT 1	TOTAL No. OFF					CERTIFIED	1	10-6-91
DIMENSIONS IN m.m.	SCALE	DO NOT SCALE	INSTITUTE OF OCEANOGRAPHIC SCIENCES					
			TITLE CHARGER MOUNTING PLATE .			DRAWING No. I.O.S./C5597 DETAIL 73		

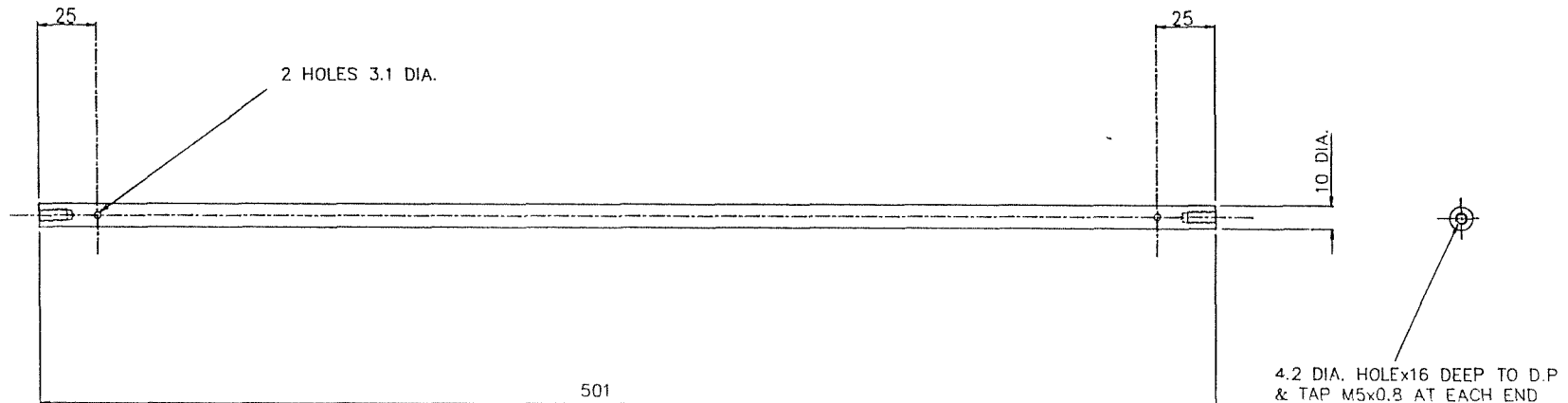
SIZE C

DRAWING No. I.O.S./ C5597
DETAIL 74

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



O/No. W/S

CHECKED

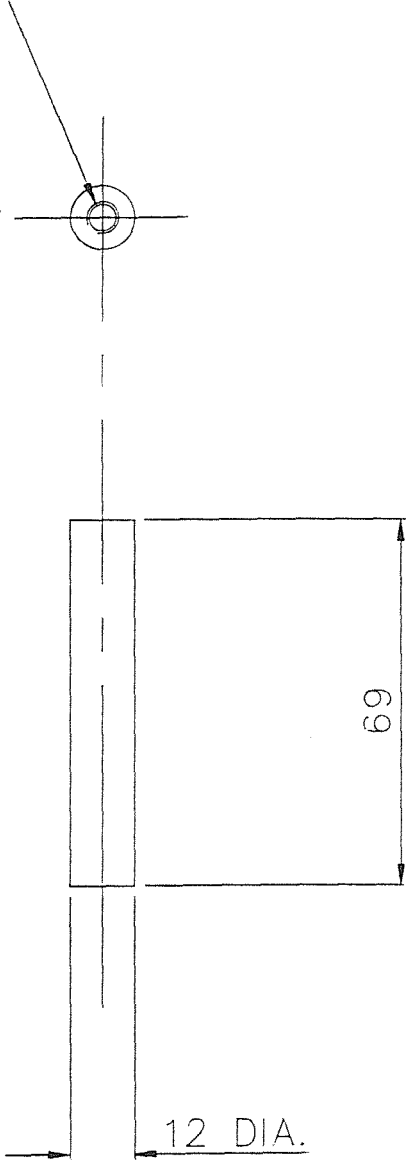
TRACED

DRAWN

NTTIMINS

SIZE D

MATERIAL ALUMINIUM ALLOY	PROTECTIVE FINISH ANODISE	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.3							
No.OFF PER UNIT 2	TOTAL No.OFF	DO NOT SCALE	AMENDMENT		ISSUE	DATE	AMENDMENT	ISSUE	DATE
DIMENSIONS IN m.m.	SCALE		INSTITUTE OF OCEANOGRAPHIC SCIENCES						
			TITLE MAIN FRAME PILLAR				DRAWING No. I.O.S./ C5597		DETAIL 74

DRAWING No		DETAIL	THIRD ANGLE PROJECTION	FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS ETC., SEE B.S.308					
I.O.S./C5597		75							
USED ON									
5.0 DIA. HOLEx20 DEEP TO D.P. & TAP M6x1 AT EACH END									
									
REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE									
O/No. W/S		MATERIAL		PROTECTIVE FINISH		TOLERANCE EXCEPT WHERE OTHERWISE STATED			
CHECKED		ALUMINIUM ALLOY		ANODISE		± 0.3			
TRACED									
DRAWN		No. OFF PER UNIT 2		TOTAL No. OFF		DO NOT SCALE		INSTITUTE OF OCEANOGRAPHIC SCIENCES	
WITHDRAWS		DIMENSIONS IN mm.		SCALE		TITLE		DRAWING No	
SIZE B						BATTERY PILLAR-A		I.O.S./C5597 75	
								DETAIL	
								75	

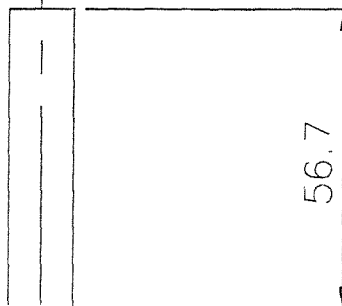
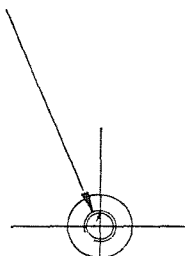
DRAWING No. DETAIL
I.O.S. / C5597 76

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308

USED ON

5.0 DIA. HOLEx20 DEEP TO D.P.
& TAP M6x1 AT EACH END



56.7

12 DIA.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

Q/No. W/S	MATERIAL ALUMINIUM ALLOY	PROTECTIVE FINISH ANODISE	TOLERANCE EXCEPT WHERE OTHERWISE STATED ± 0.3	AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
CHECKED							CERTIFIED	1	12-6-01
TRACED	No. OFF PER UNIT 2	TOTAL No. OFF		INSTITUTE OF OCEANOGRAPHIC SCIENCES					
DRAWN	DIMENSIONS IN mm. SCALE		DO NOT SCALE	TITLE BATTERY PILLAR-B		DRAWING No. DETAIL I.O.S. / C5597 76			
SIZE B									

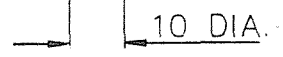
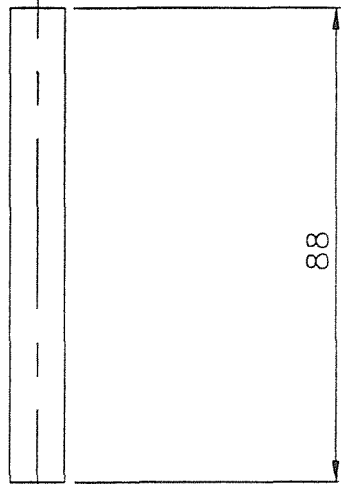
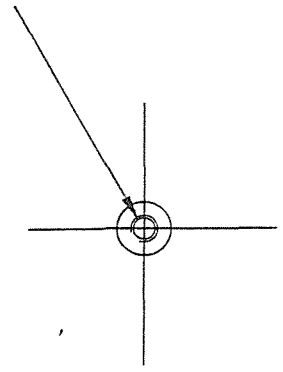
DRAWING No. DETAIL
I.O.S./C5597 77

THIRD ANGLE PROJECTION

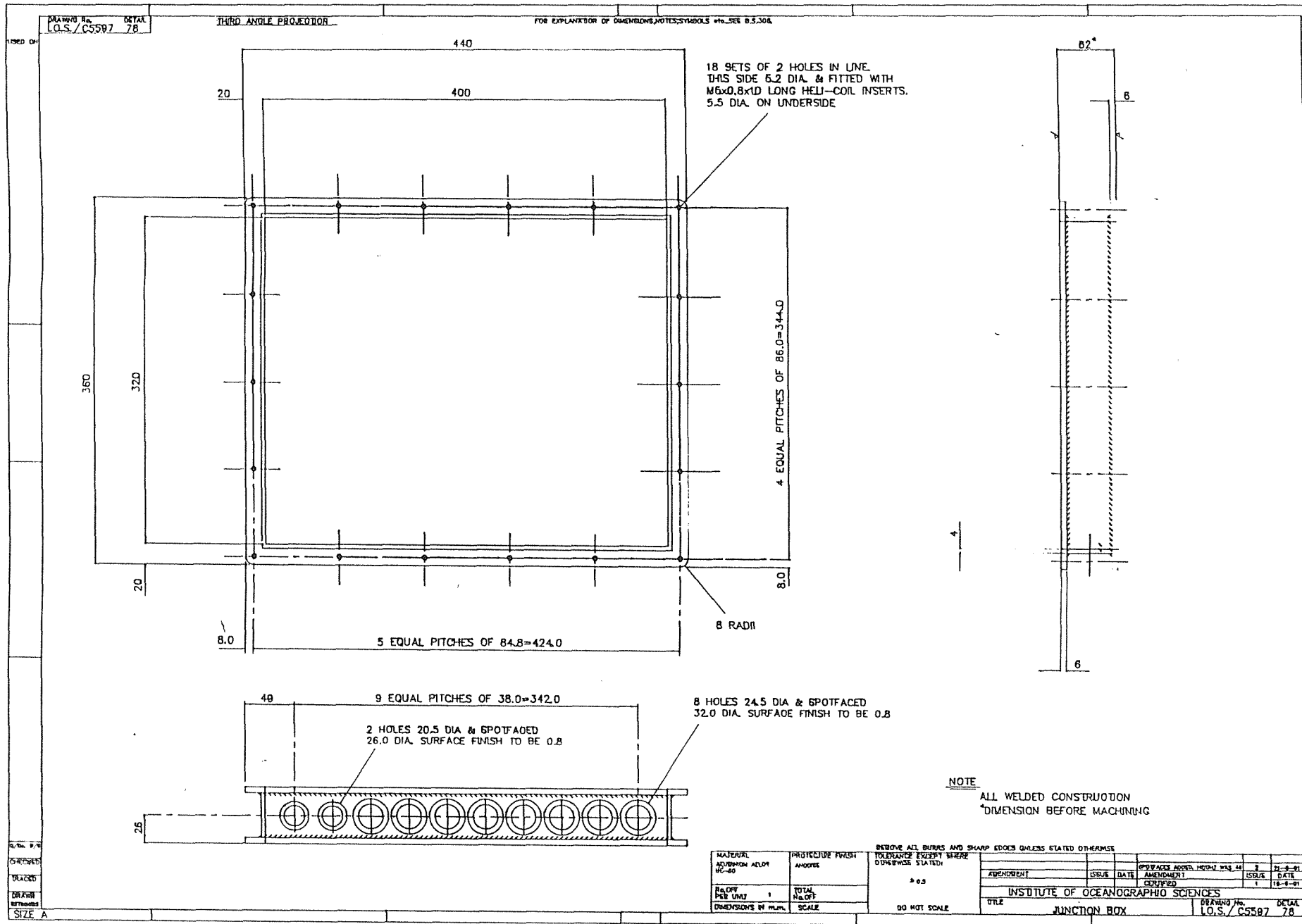
FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc. SEE B.S.308

USED ON

4.2 DIA. HOLEx16 DEEP TO D.P.
& TAP M5x0.8 AT BOTH ENDS



O/No. W/S				REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE			
CHECKED	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED ± 0.3	AMENDMENT		ISSUE	DATE
	ALUMINIUM ALLOY	ANODISE		CERTIFIED			
TRACED	No. OFF PER UNIT	TOTAL No. OFF	DO NOT SCALE	INSTITUTE OF OCEANOGRAPHIC SCIENCES			
DRAWN	8			TITLE MOUNTING PLATE PILLAR			
HTD/MS	DIMENSIONS IN mm.	SCALE		DRAWING No. I.O.S./C5597 77		DETAIL	
SIZE B							

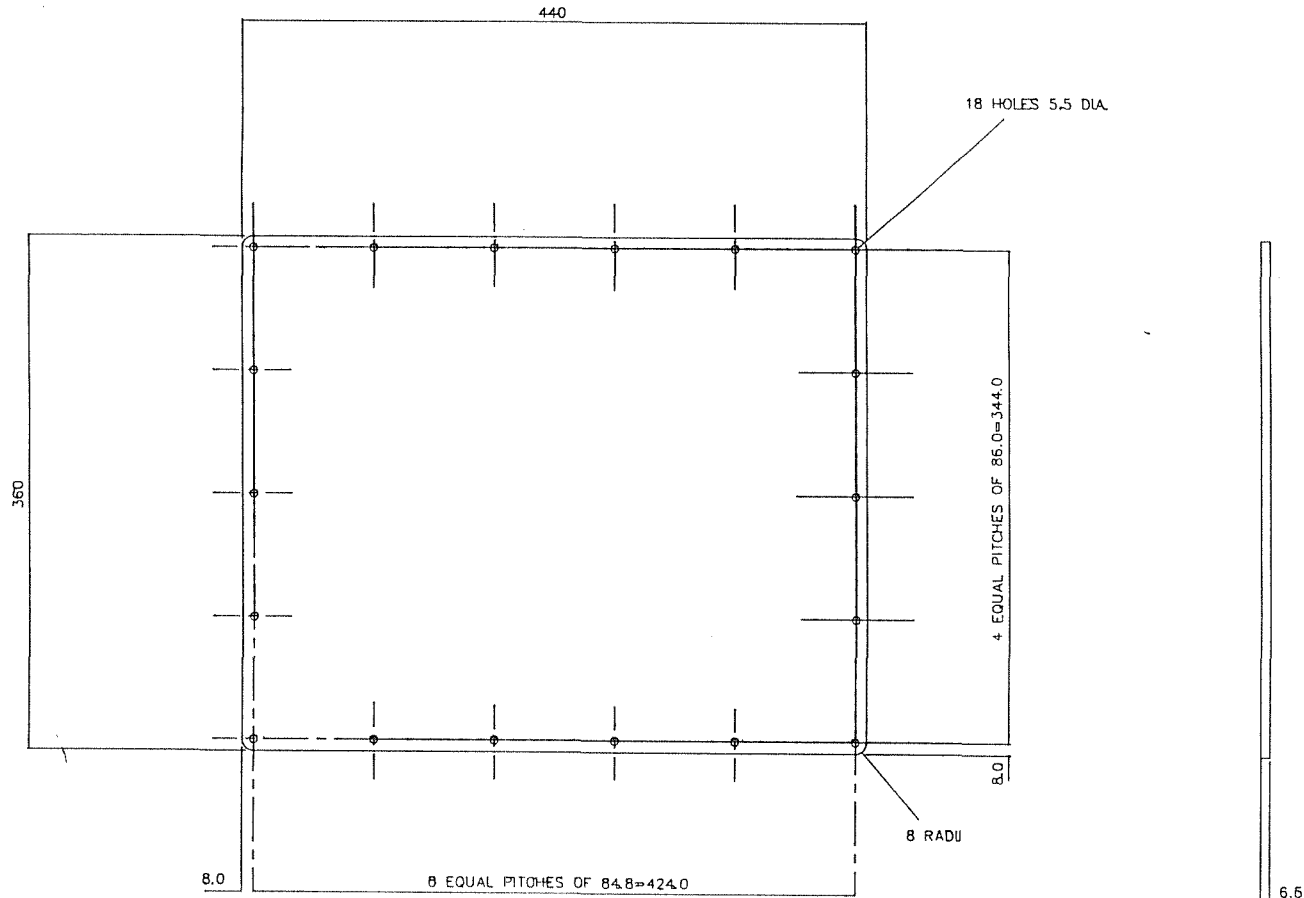


DRAWING No. I.O.S./C5597
DETAIL 79

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



Q/No. W/S

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

CHECKED

MATERIAL
ALUMINIUM ALLOY
HE-30

PROTECTIVE FINISH
ANODISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 0.5

TRACED

No.OFF
PER UNIT 1

TOTAL
No.OFF

DRAWN

DIMENSIONS IN m.m.

SCALE

DO NOT SCALE

TITLE

JUNCTION BOX LID

DRAWING No.
I.O.S./C5597

DETAIL
79

INSTITUTE OF OCEANOGRAPHIC SCIENCES

SIZE C

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

Technical drawing of a rectangular plate with dimensions and hole patterns. The overall dimensions are 440 (width) and 360 (height). The inner dimensions are 400 (width) and 320 (height). The plate has 18 holes, 6 in diameter, arranged in 4 equal pitches of 86.0 (344.0 total). The holes are located at the corners and along the edges. The distance from the center of the plate to the center of the corner holes is 8.0. The distance from the center of the plate to the center of the edge holes is 8.0. The distance from the center of the plate to the center of the corner holes is 8.0. The distance from the center of the plate to the center of the edge holes is 8.0.

SIZE

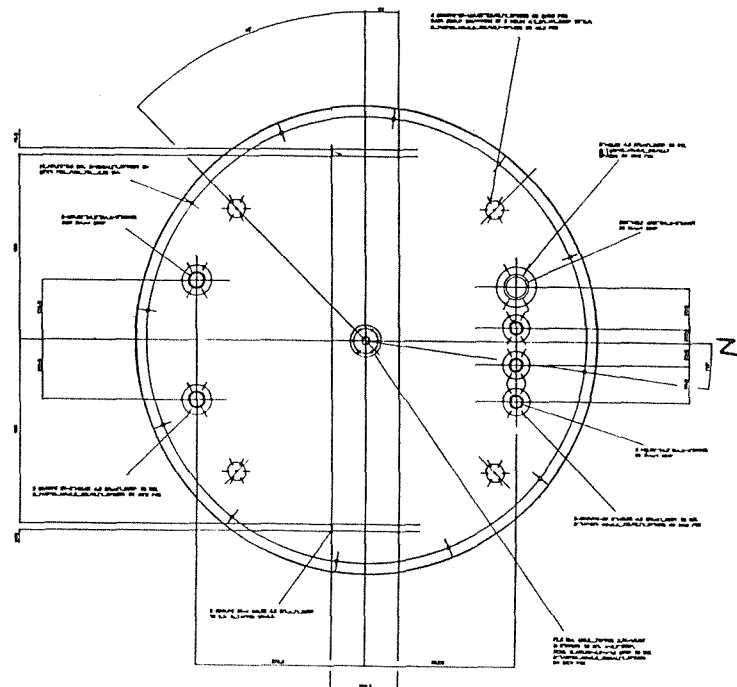
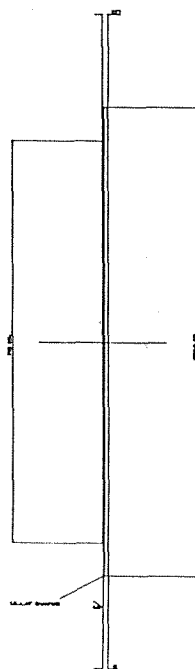
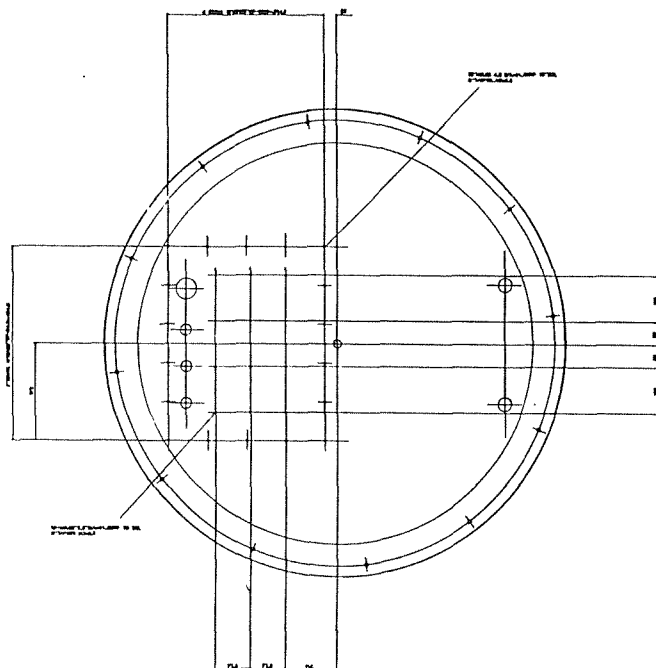
DETAIL
80

SIZE C

DRAWING No. 10.S/C5597
DETAIL 81

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE 8.5.308.



Q/A P/A
CHECKED
TRACED
DRAWN
BY/DATE
SIZE A

MATERIAL ALUMINIUM ALLOY UC-30	PROTECTIVE FINISH ANODISE
SCALE DIMENSIONS IN mm	TOTAL NO. OF SHEET

TOLERANCES EXCEPT WHERE OTHERWISE STATED	
± 0.5	
DO NOT SCALE	

APPROVED	ISSUE	DATE	TO BE DONE IN 15 HOURS	8	8-7-81
INSTITUTE OF OCEANOGRAPHIC SCIENCES		CERTIFIED	ISSUE	DATE	
TITLE MAIN INSTRUMENT, HOUSING LD		DRAWING No.	10.S/C5597	DETAIL	81

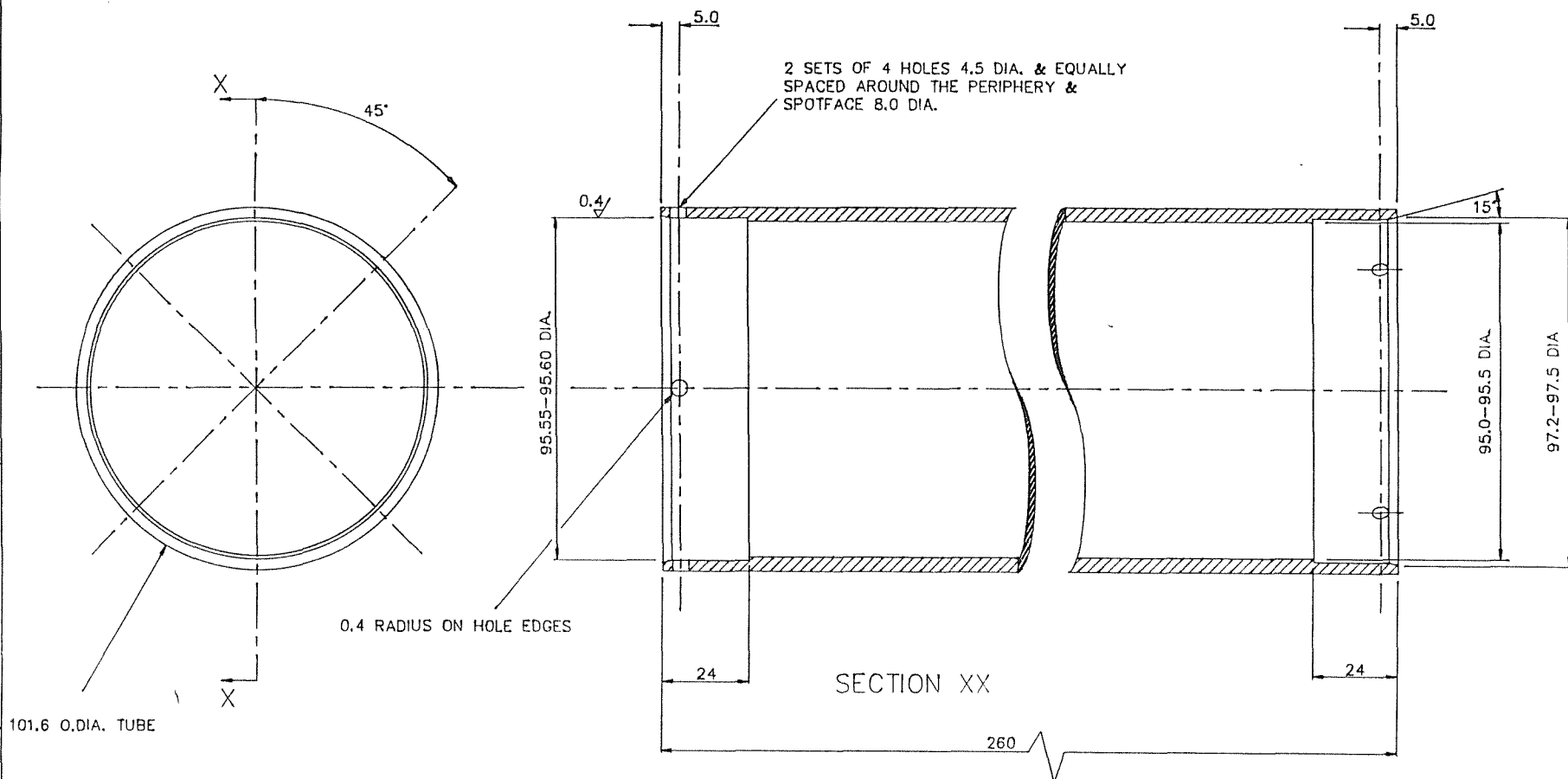
DRAWING No. I.O.S./C5597		DETAIL 82	THIRD ANGLE PROJECTION		FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.							
USED ON												
o/No. w/s		REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE										
CHECKED		MATERIAL ALUMINIUM ALLOY	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.5		AMENDMENT		ISSUE	DATE	AMENDMENT	ISSUE	DATE
TRACED		No.OFF PER UNIT 4	TOTAL No.OFF	DO NOT SCALE		INSTITUTE OF OCEANOGRAPHIC SCIENCES		CERTIFIED		1		4-7-01
DRAWN NTTMMNS		DIMENSIONS IN m.m.	SCALE 1:2			TITLE PCB CHASSIS BAR		DRAWING No. I.O.S./C5597		DETAIL 82		
SIZE C												

DRAWING No. I.O.S./C5597
DETAIL 83

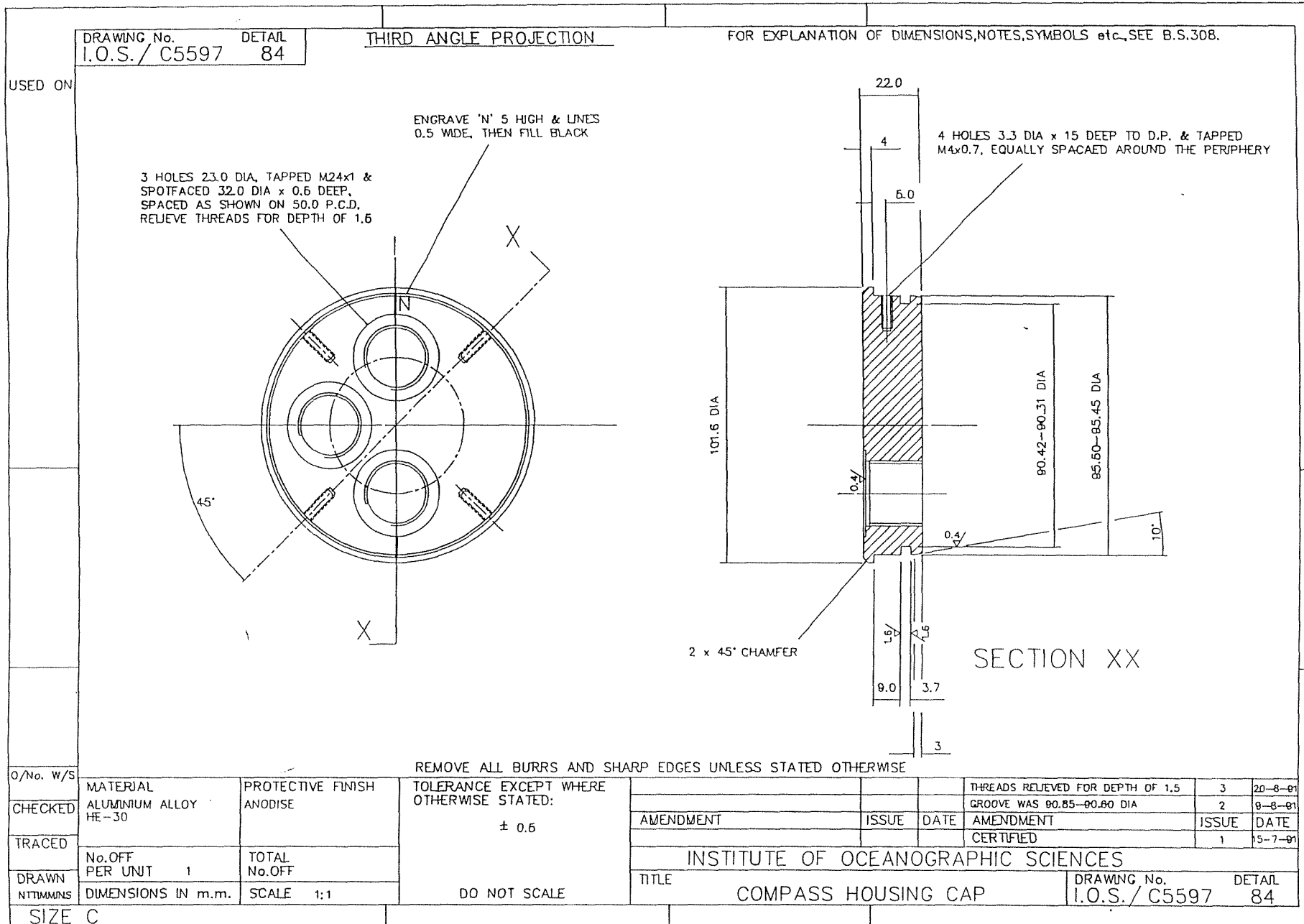
THIRD ANGLE PROJECTION

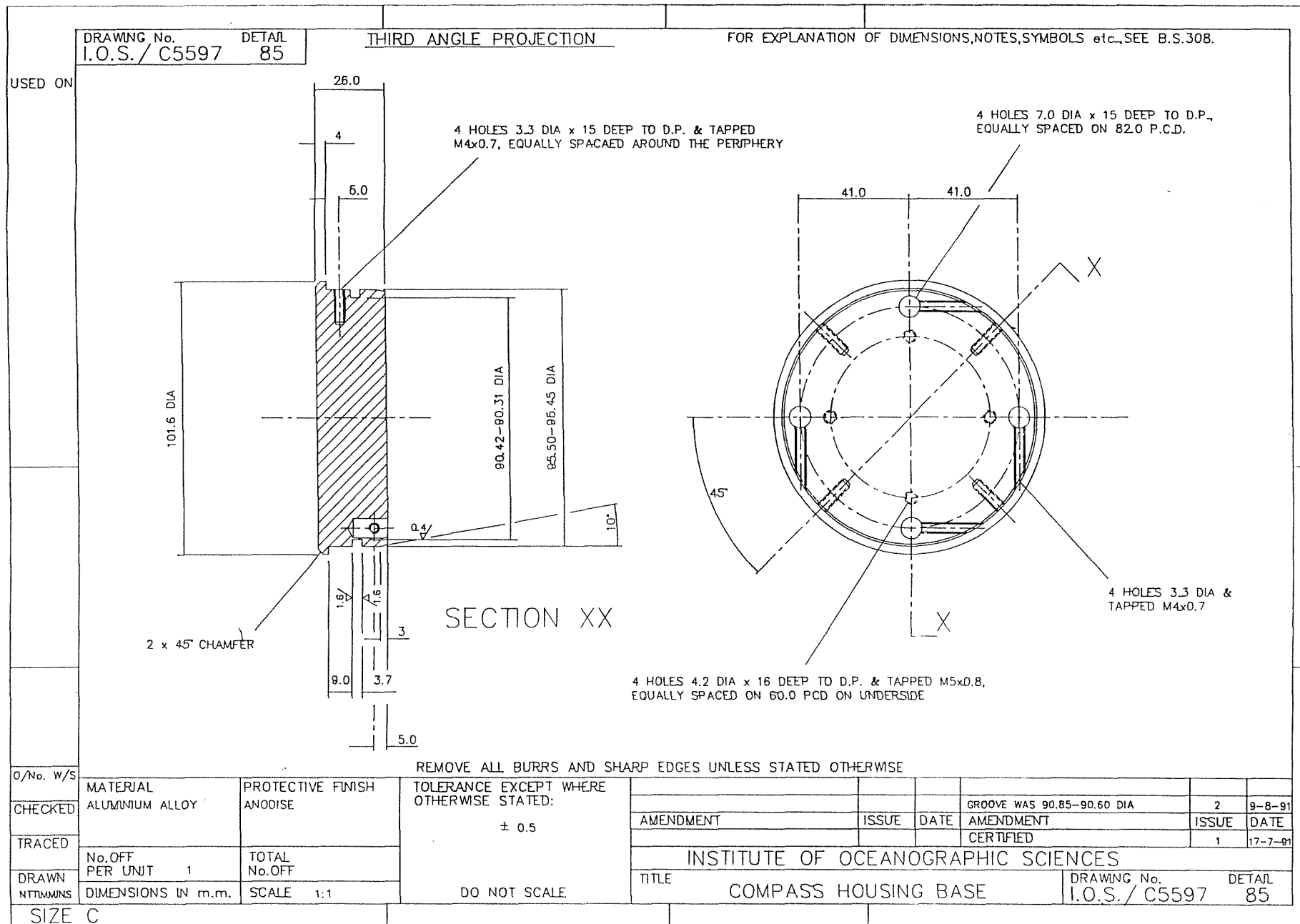
FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. W/S	REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE									
CHECKED	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.5				15° CHAMFERS ADDED TO TUBE C'BORES	3	9-8-91	
	ALUMINIUM ALLOY HE-30	ANODISE					4 HOLES ROTATED 45°	2	17-7-91	
TRACED				AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE	
	No.OFF PER UNIT 1	TOTAL No.OFF					CERTIFIED	1	5-7-91	
DRAWN				INSTITUTE OF OCEANOGRAPHIC SCIENCES						
NTTIMINS	DIMENSIONS IN m.m.	SCALE 1:1	DO NOT SCALE	TITLE COMPASS HOUSING BODY				DRAWING No. I.O.S./C5597		DETAIL 83
SIZE C										





DRAWING No. DETAIL
I.O.S./C5597 86

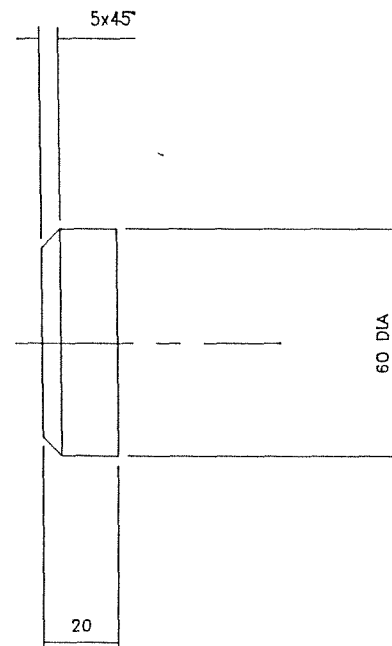
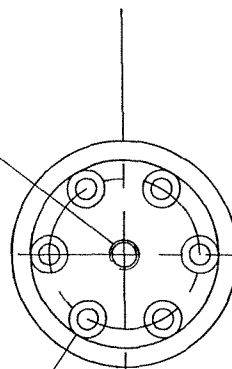
THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON

6.6 DIA HOLE TAPPED M8x1.25

6 HOLES 5.5 DIA. & C'SK. 90° TO
10 DIA., EQUALLY SPACED ON 40.0 PCD



O/No. W/S

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

CHECKED

MATERIAL
ALUMINIUM ALLOY
HE-30

PROTECTIVE FINISH
ANODISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 0.5

AMENDMENT

ISSUE

DATE

AMENDMENT

ISSUE

DATE

TRACED

No. OFF
PER UNIT 4

TOTAL
No. OFF

DRAWN

DIMENSIONS IN m.m.

SCALE

DO NOT SCALE

TITLE

LIFTING EYE BOSS

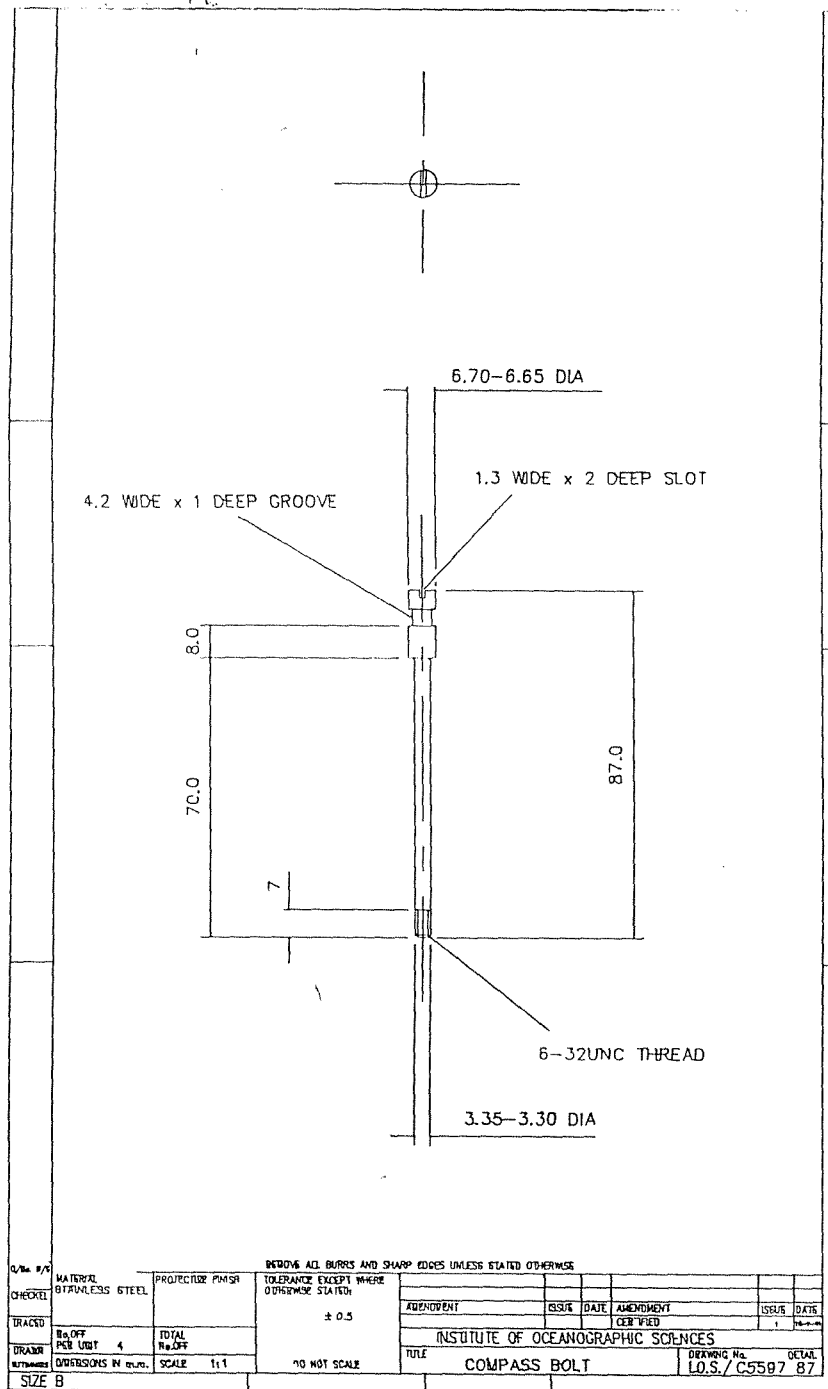
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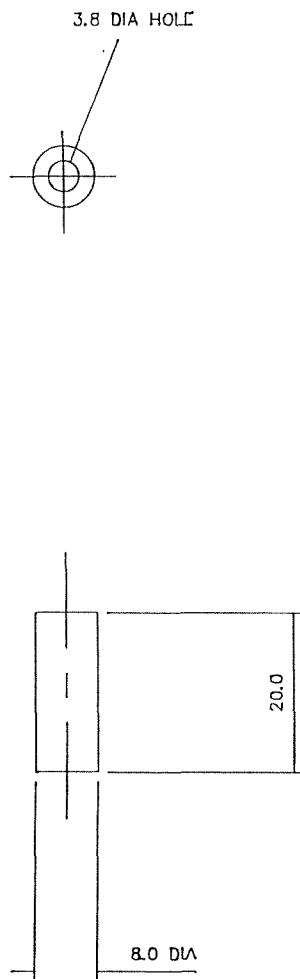
I.O.S./C5597

DETAIL

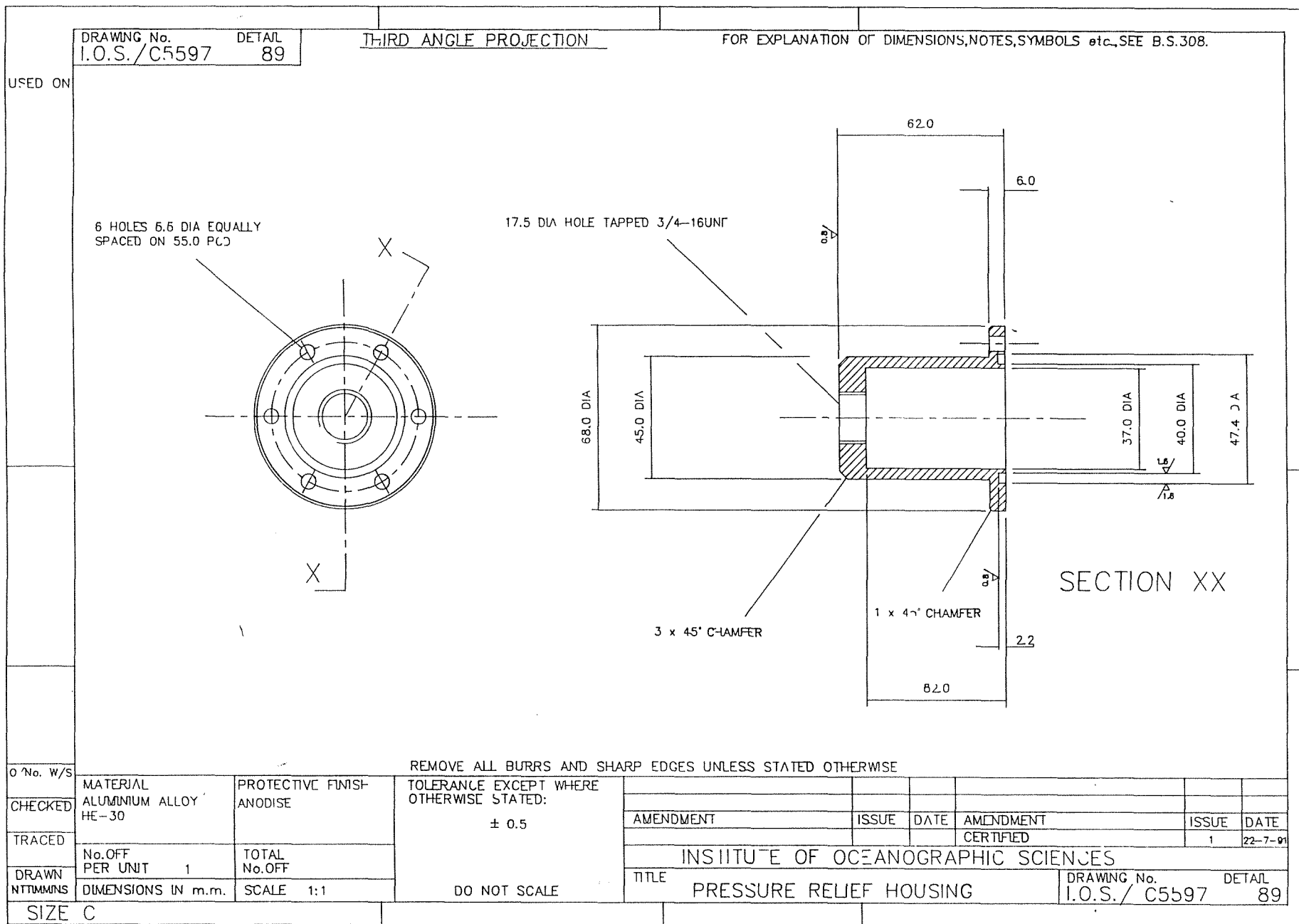
86

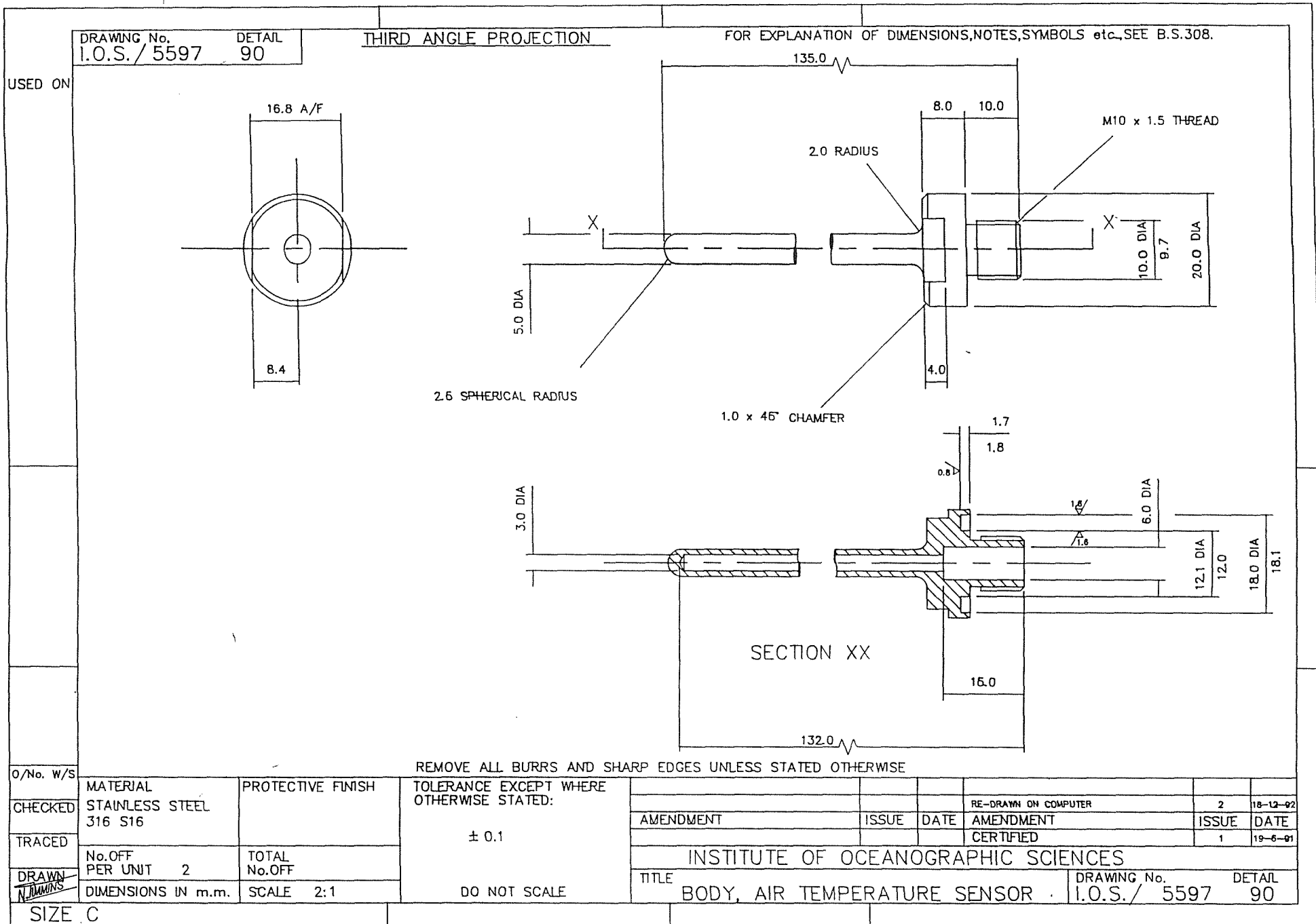
SIZE C





Q/L R/E		WATERL		PROJECTOR PMS-		REMOVE ALL BURNS AND SHARP EDGES UNLESS STATED OTHERWISE						
CHECKED		RUD P.V.				TOLERANCE EXCEPT WHERE OTHERWISE STATED						
TRACED						AMENDMENT		ISSUE	DATE	AMENDMENT	ISSUE	DATE
		B.O.F.F.		TOTAL		INSTITUTE OF OCEANOGRAPHIC SCIENCES		CERTIFIED				
DRAWN		PER DLT 12		E.O.F.F.		TITLE		COMPASS SPACER		DRAWING No. L.O.S./C5597 DETAIL 88		
REVISIONS		DIMENSIONS IN INCH.		SCALE 2		DO NOT SCALE						
SIZE B												





DRAWING No. I.O.S./ 5597
DETAIL 91

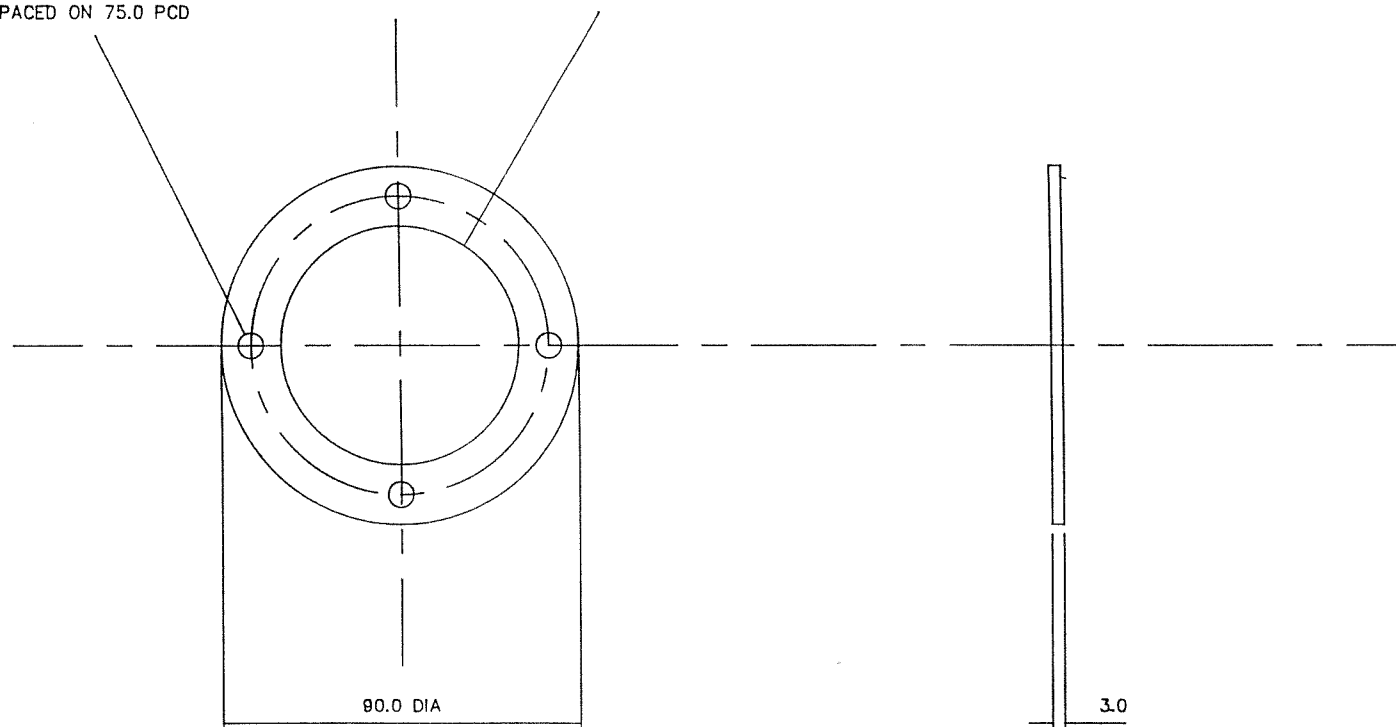
THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON

4 HOLES 6.5 DIA
EQUI-SPACED ON 75.0 PCD

60.0 DIA HOLE



90.0 DIA

3.0

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

O/No. W/S

CHECKED

TRACED

DRAWN
N. JIMMINS

MATERIAL
SYNTHETIC RUBBER
40/50 IRHD

PROTECTIVE FINISH

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 1.0

DO NOT SCALE

AMENDMENT

ISSUE

DATE

RE-DRAWN ON COMPUTER

ISSUE

DATE

CERTIFIED

1

8-8-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

GASKET

DRAWING No.

DETAIL

I.O.S./ 5597

91

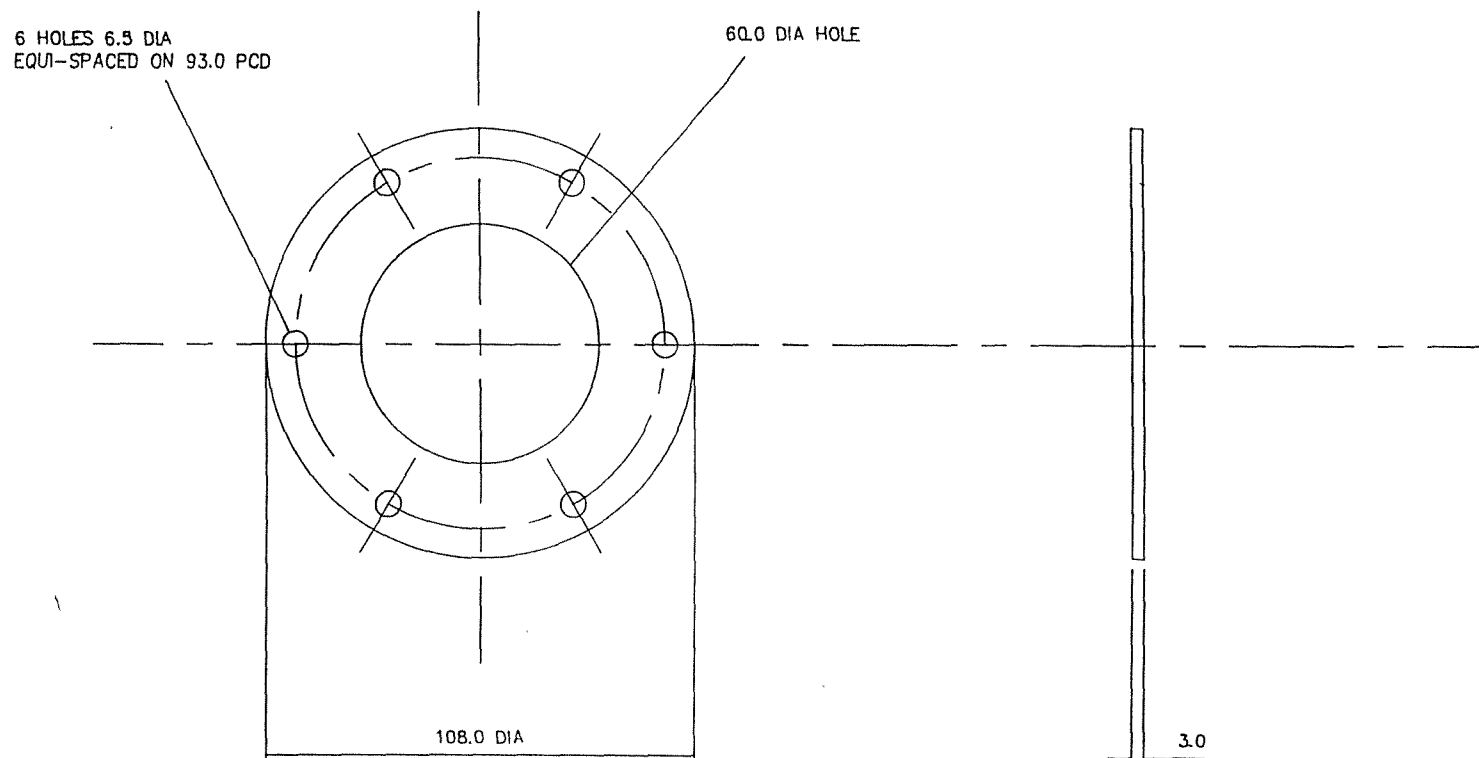
SIZE C

DETAIL
92

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc,SEE B.S.308.

USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

O/No.	W/S
-------	-----

CHECKED

TRACED

~~DRAWN~~
~~N JIMINS~~

MATERIAL
SYNTHETIC RUBBER
40/50 IRHD

PROTECTIVE FINISH

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

± 1.0

No.OFF	
PER UNIT	2

TOTAL	
No.OFF	

DIMENSIONS IN m.m.

SCALE 1:1

DO NOT SCALE

			RE-DRAWN ON COMPUTER	2	10-12-97
AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	8-8-97

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE	AUTHOR	DATE	PAGE
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89	90	91	92
93	94	95	96
97	98	99	100

GASKET

DRAWING No.	DETAIL
I.O.S. / 5597	92

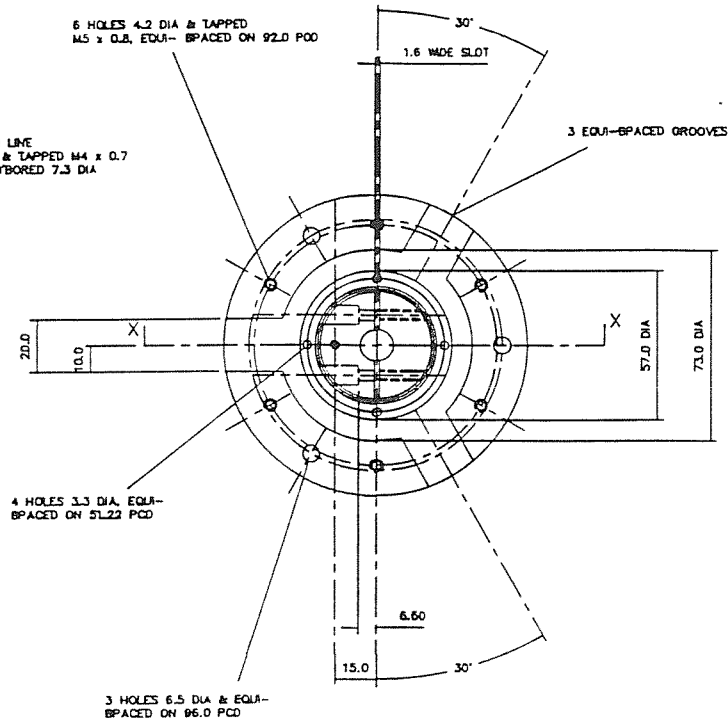
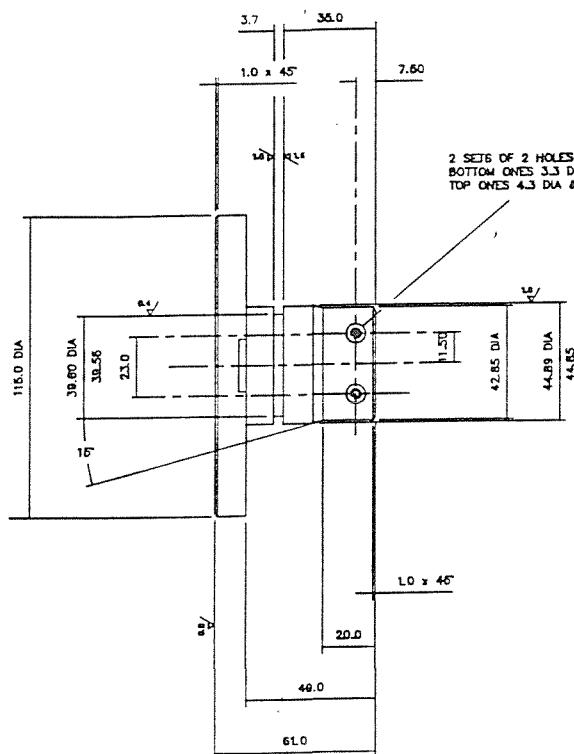
SIZE C

DRAWING No. DETAIL
I.O.S./ 5597 94

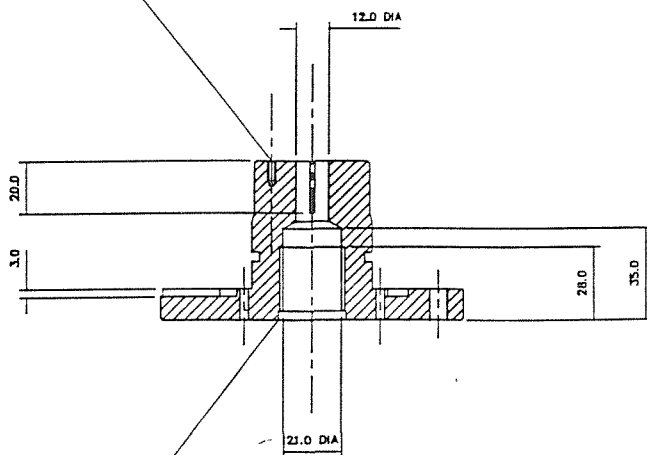
THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



2.6 DIA HOLE x 10.0 DEEP TO
DP & TAPPED M3 x 0.5
MASK OFF BEFORE ANODISING



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

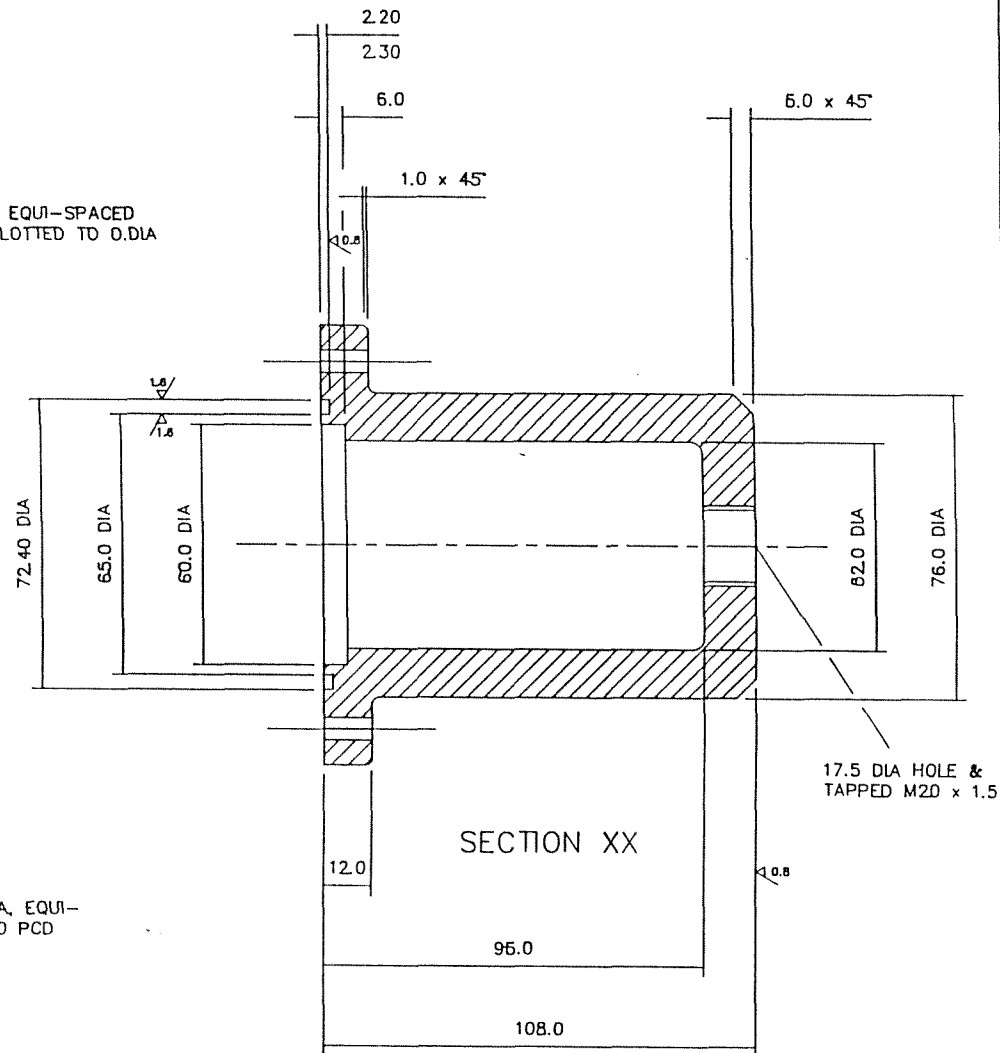
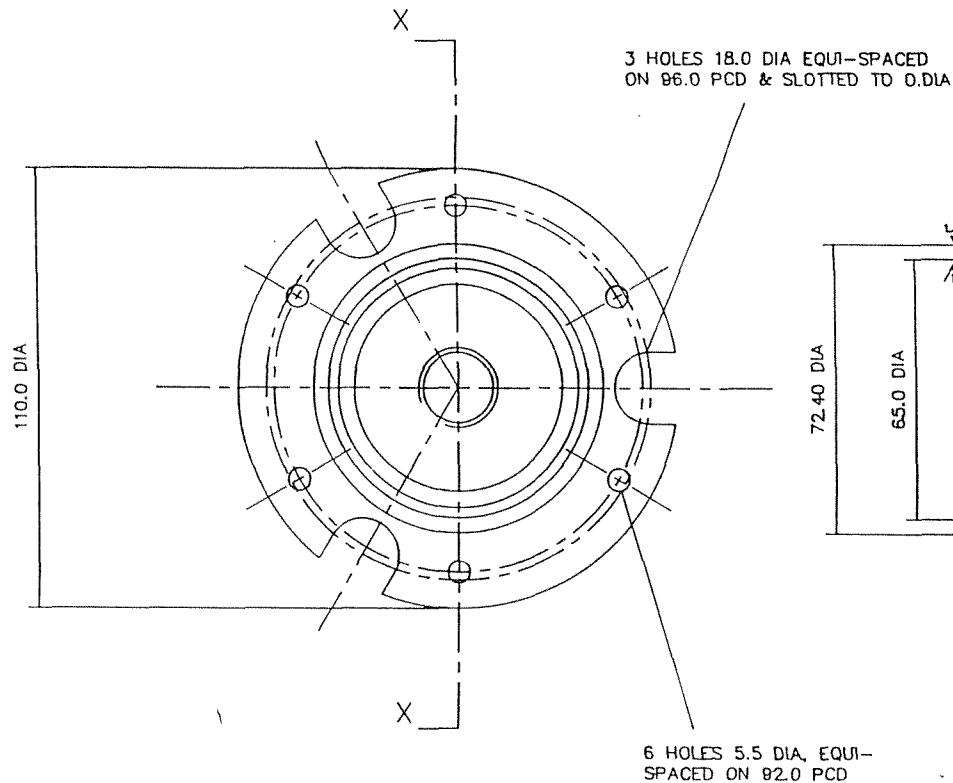
O/No. W/S	MATERIAL ALUMINIUM ALLOY HE 30 WP	PROTECTIVE FINISH ANODISE	REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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DRAWING No. I.O.S./ 5597
 DETAIL 96

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

O/No. W/S

CHECKED

TRACED

DRAWN

SIZE C

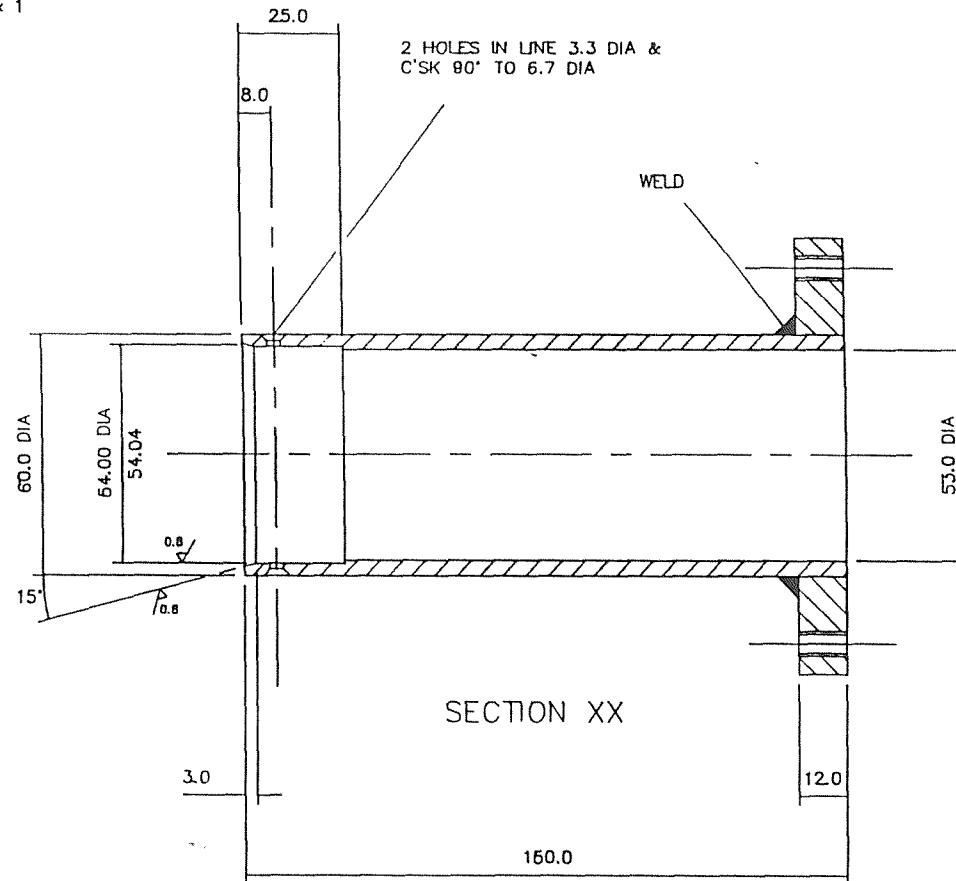
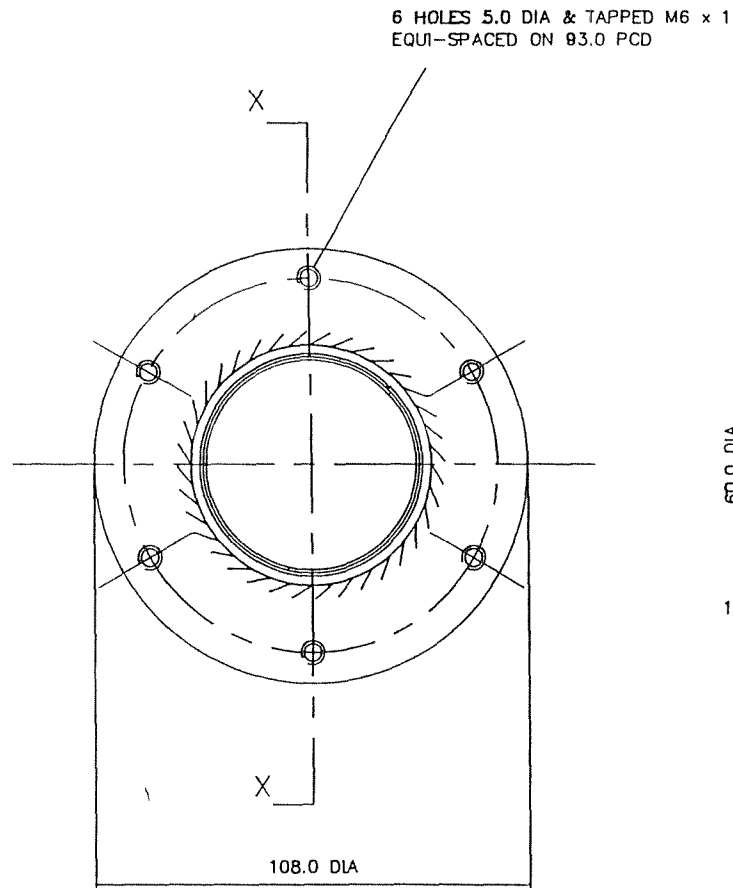
MATERIAL POLYPROPYLENE	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.1	AMENDMENT	ISSUE	DATE	RE-DRAWN ON COMPUTER	2	4-1-93
No.OFF PER UNIT 1	TOTAL No.OFF					AMENDMENT	ISSUE	DATE
DIMENSIONS IN m.m.	SCALE 1:1	DO NOT SCALE				CERTIFIED	1	28-11-91
INSTITUTE OF OCEANOGRAPHIC SCIENCES								
TITLE TOP HAT-SST						DRAWING No. I.O.S./ 5597	DETAIL 96	

DRAWING No. I.O.S./ 5597
 DETAIL 97

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

SIZE C

MATERIAL
 ALUMINIUM ALLOY
 HE 30 WP

PROTECTIVE FINISH
 ANODISE

No.OFF
 PER UNIT 2
 DIMENSIONS IN m.m.

TOTAL
 No.OFF
 SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED:

± 0.4

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

ISSUE

DATE

CERTIFIED

WAS DETAIL 28

1

2-12-91

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

DCP ANTENNA TUBE BASE

DRAWING No.
 I.O.S./ 5597

DETAIL
 97

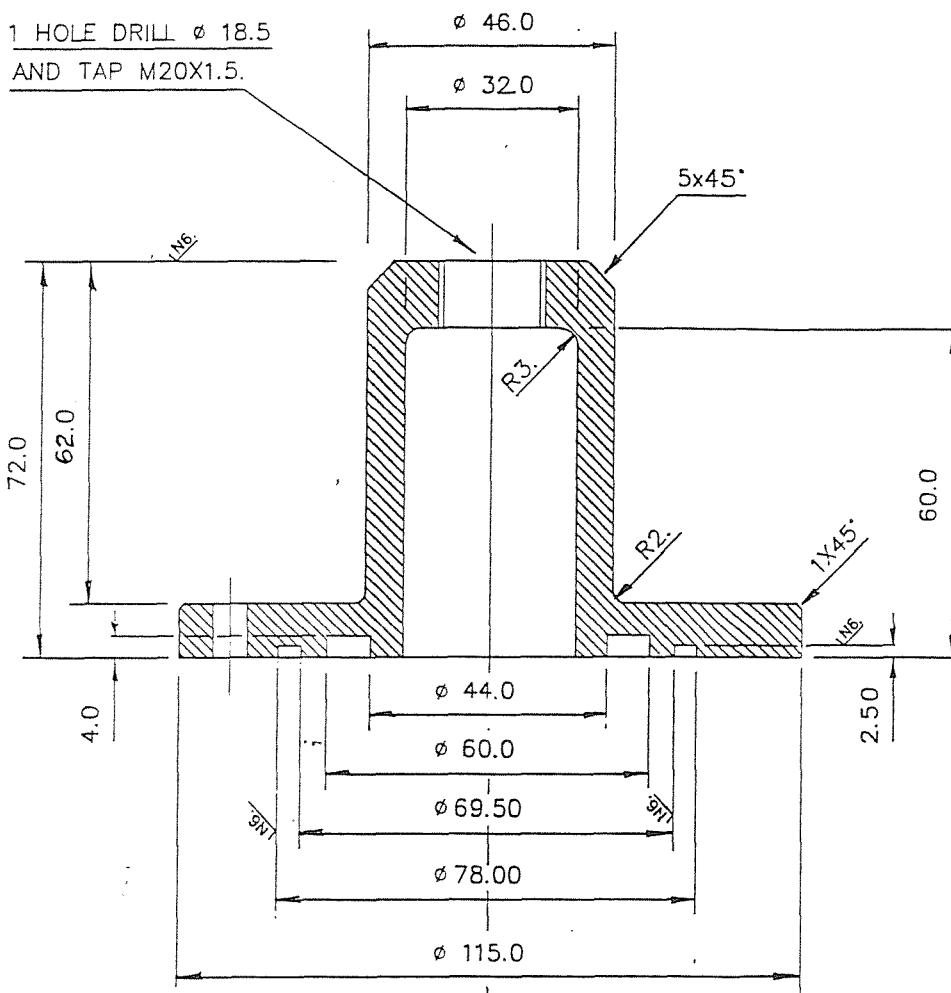
DRAWING No. 10.S / C5597 100

THIRD ANGLE PROJECTION

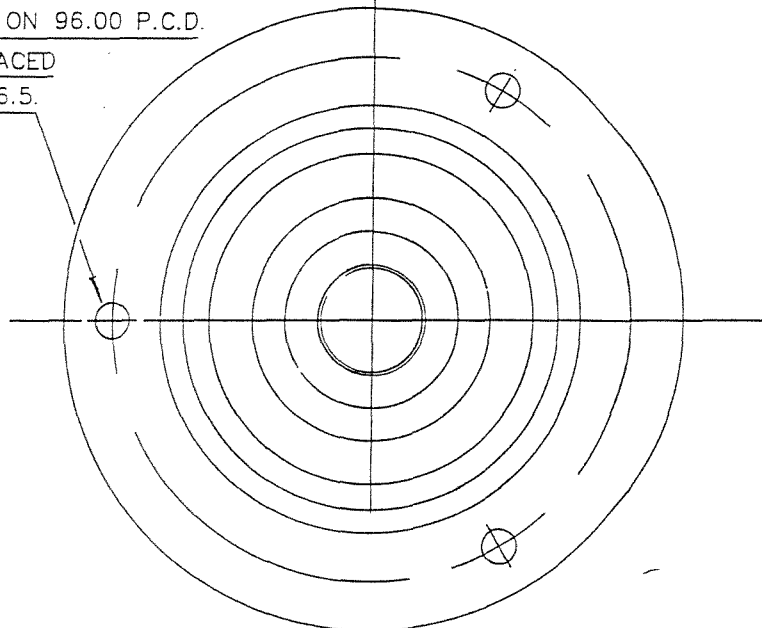
FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc. SEE B.S.308.

USED ON

1 HOLE DRILL ϕ 18.5
AND TAP M20X1.5.



3 HOLES ON 96.00 P.C.D.
EQUI-SPACED
DRILL ϕ 6.5.



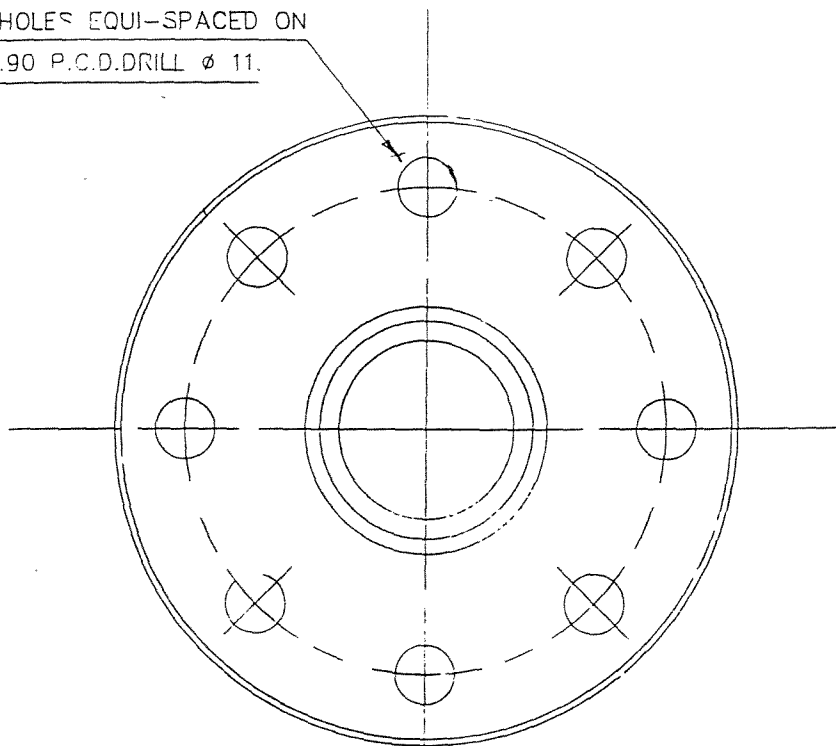
O/B: W/S		REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE			
CHECKED	MATERIAL POLYPROPYLENE	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm$ 0.05mm	AMENDMENT	ISSUE
TRACED			$X = \pm$.4mm	CERTIFIED	DATE
DRAWN	No. OFF PER UNIT 2	TOTAL No OFF	$.XX = \pm$.1mm	INSTITUTE OF OCEANOGRAPHIC SCIENCES	
B.J.L.	DIMENSIONS IN mm	SCALE 1:1	DO NOT SCALE	TITLE	DETAIL
SIZE B				TOP HAT FOR BUOY TUBE	10.S / C5597 100

DRAWING No. DETAIL
L.O.S./C5597 101

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc. SEE B.S.308.

8 HOLES EQUI-SPACED ON
88.90 P.C.D. DRILL ϕ 11.



ϕ 115.0

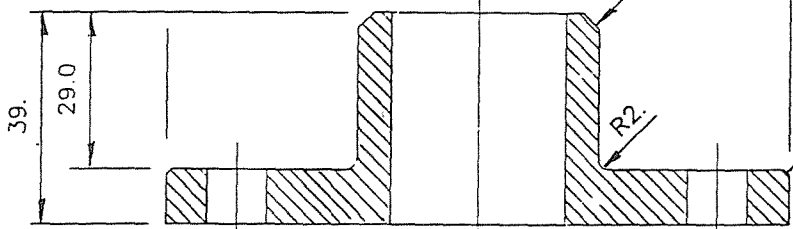
ϕ 45.0

ϕ 32.5

3X45°

R2

1X45°



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

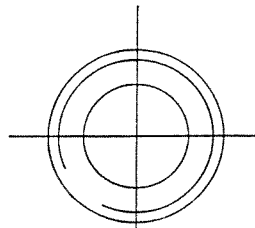
Q/Bo #/5	MATERIAL AL ALLOY HE-30-WP	PROTECTIVE FINISH ANOD. NATURAL CHROMIUM ACID.	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.1 mm X = ± 0.4 mm XX = ± 0.1 mm	AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
CHECKED									
TRACED	No. OFF PER UNIT 1	TOTAL No. OFF							
DRAWN	DIMENSIONS IN mm	SCALE 1:1	DO NOT SCALE	INSTITUTE OF OCEANOGRAPHIC SCIENCES					
SIZE B				TITLE LIFTING BAR GUIDE			DRAWING No. DETAIL L.O.S./C5597 101		

DRAWING No. DETAIL
 10.S./C5597 102

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc. SEE B.S.308

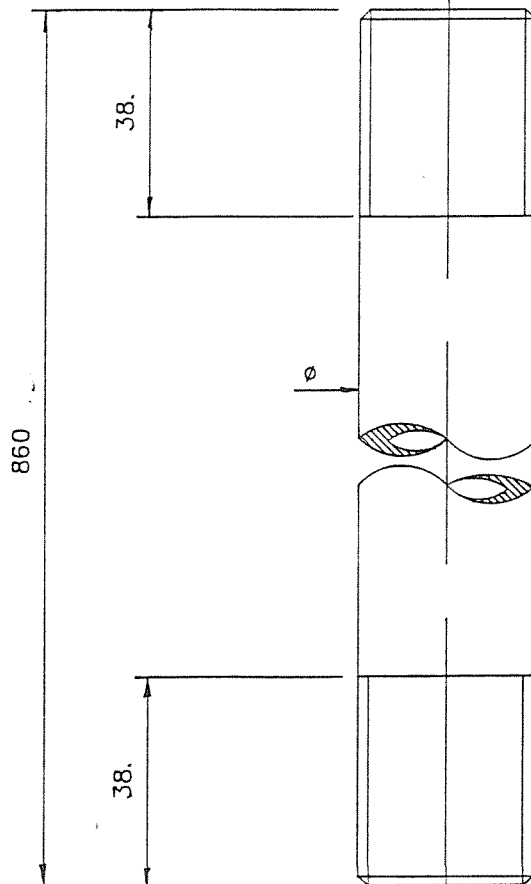
USED ON



ϕ 1.250

SCREW $1\frac{1}{4}$ B.S.F. BOTH ENDS.

1.239



ϕ

$1\frac{1}{4} \times 3/4 \phi$ BORE.

860

38.

38.

10/8a. W/S

CHECKED

TRACED

DRAWN

SIZE B

MATERIAL
 ST STEEL
 316 S16.

PROTECTIVE FINISH
 NONE

No. OFF
 PER UNIT 1.

TOTAL
 No. OFF

DIMENSIONS IN mm.

SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED: $\pm$ 0.05mm
 $X = \pm .4$ mm

.XX = $\pm .1$ mm.

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE LIFTING BAR.

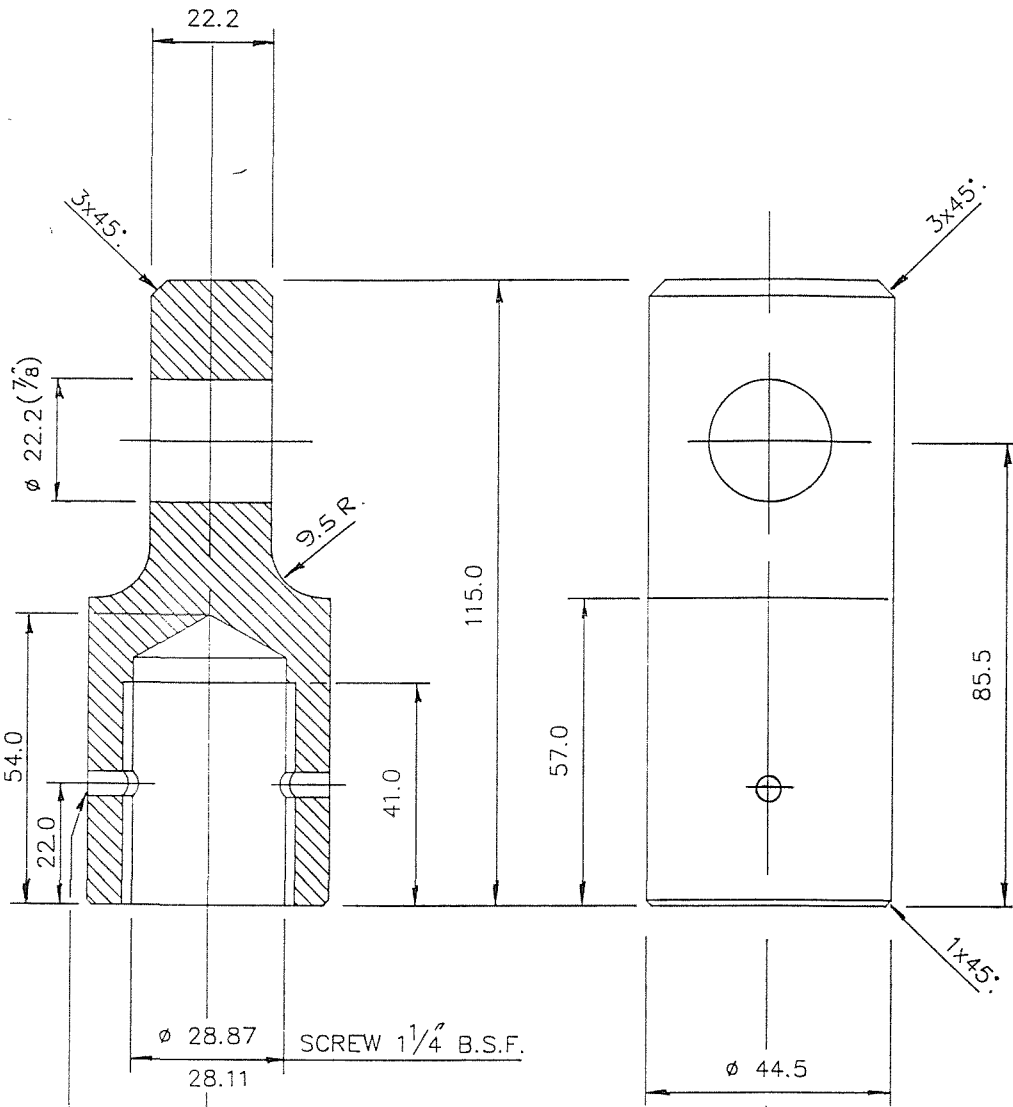
DRAWING No. DETAIL
 10.S./C5597 102

DRAWING No. 103
L.O.S./C5597

THIRD ANGLE PROJECTION

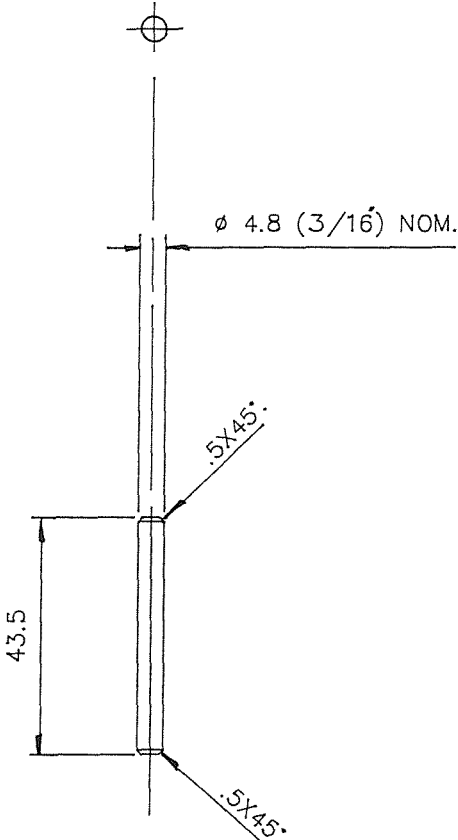
FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc. SEE B.S.308.

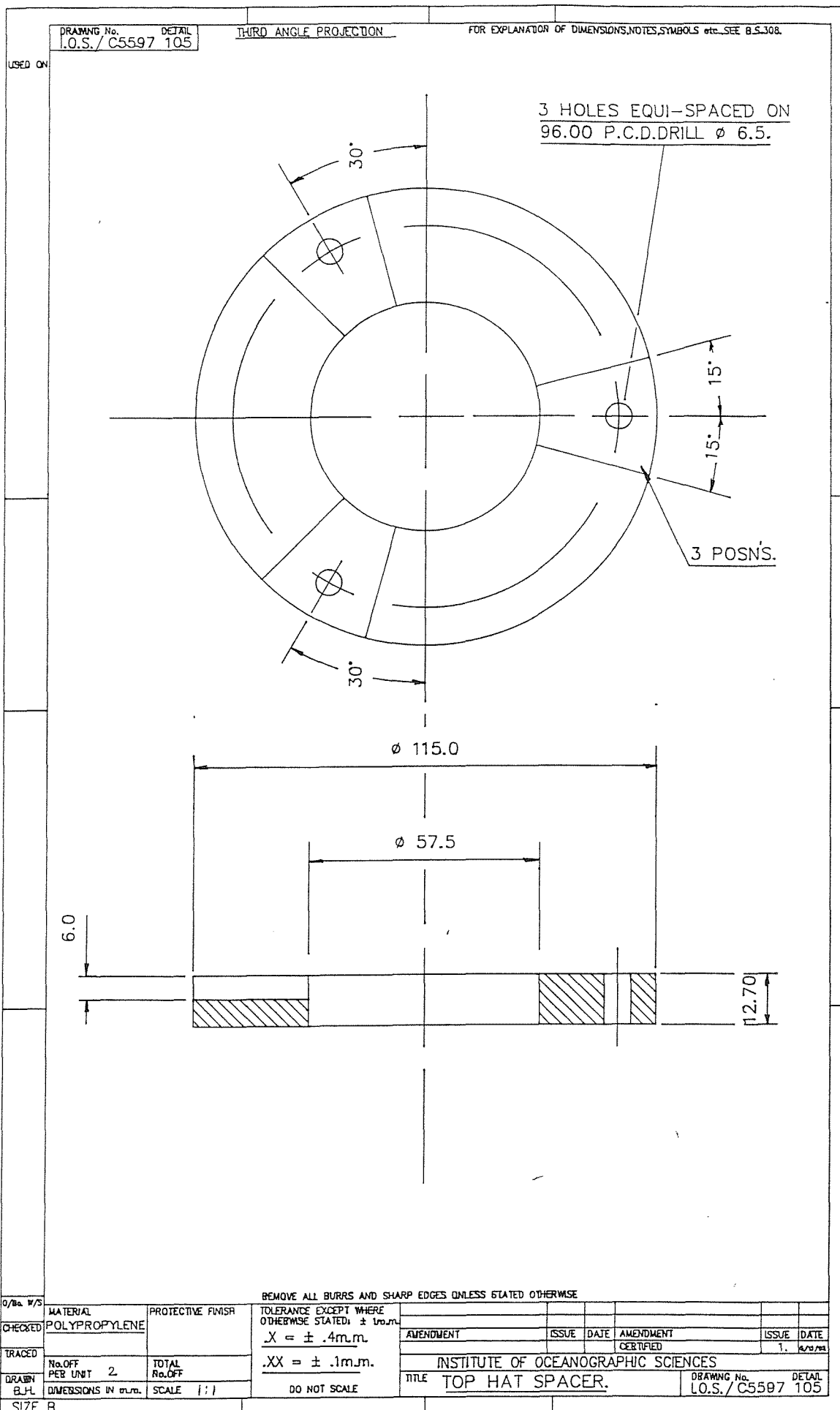
USED ON



ON ASSY DRILL $\phi 4.6$ THRO
BOTH WALLS, AND REAM TO
SUIT DETAIL 104, TIGHT KEYING
FIT.

Q/No. W/S		REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE							
CHECKED	MATERIAL ST. STEEL 316-316	PROTECTIVE FINISH NONE	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.1 mm	AMENDMENT	ISSUE	DATE	AMENDMENT CERTIFIED	ISSUE	DATE
SPACED	No. OFF PER LINE	TOTAL No. OFF	$X = \pm 0.4$ mm $.XX = \pm 0.1$ mm	INSTITUTE OF OCEANOGRAPHIC SCIENCES			DRAWING No. 103		
DATE	DRAWING BY		SCALE	TITLE LIFTING BAR END.			L.O.S./C5597		
SIZE B			DO NOT SCALE						

DRAWING No. I.O.S./C5597		DETAIL 104	THIRD ANGLE PROJECTION		FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc...SEE B.S.308.			
USED ON								
								
REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE								
MATERIAL ST STEEL 316-S16.		PROTECTIVE FINISH NONE		TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.0mm				
No.OFF PER UNIT 2.		TOTAL No.OFF		X = ± .4mm.				
DIMENSIONS IN mm.		SCALE 1:1		.XX = ± .1mm.				
DO NOT SCALE		INSTITUTE OF OCEANOGRAPHIC SCIENCES						
TITLE PIN.		DRAWING No. I.O.S./C5597			DETAIL 104			
SIZE B								

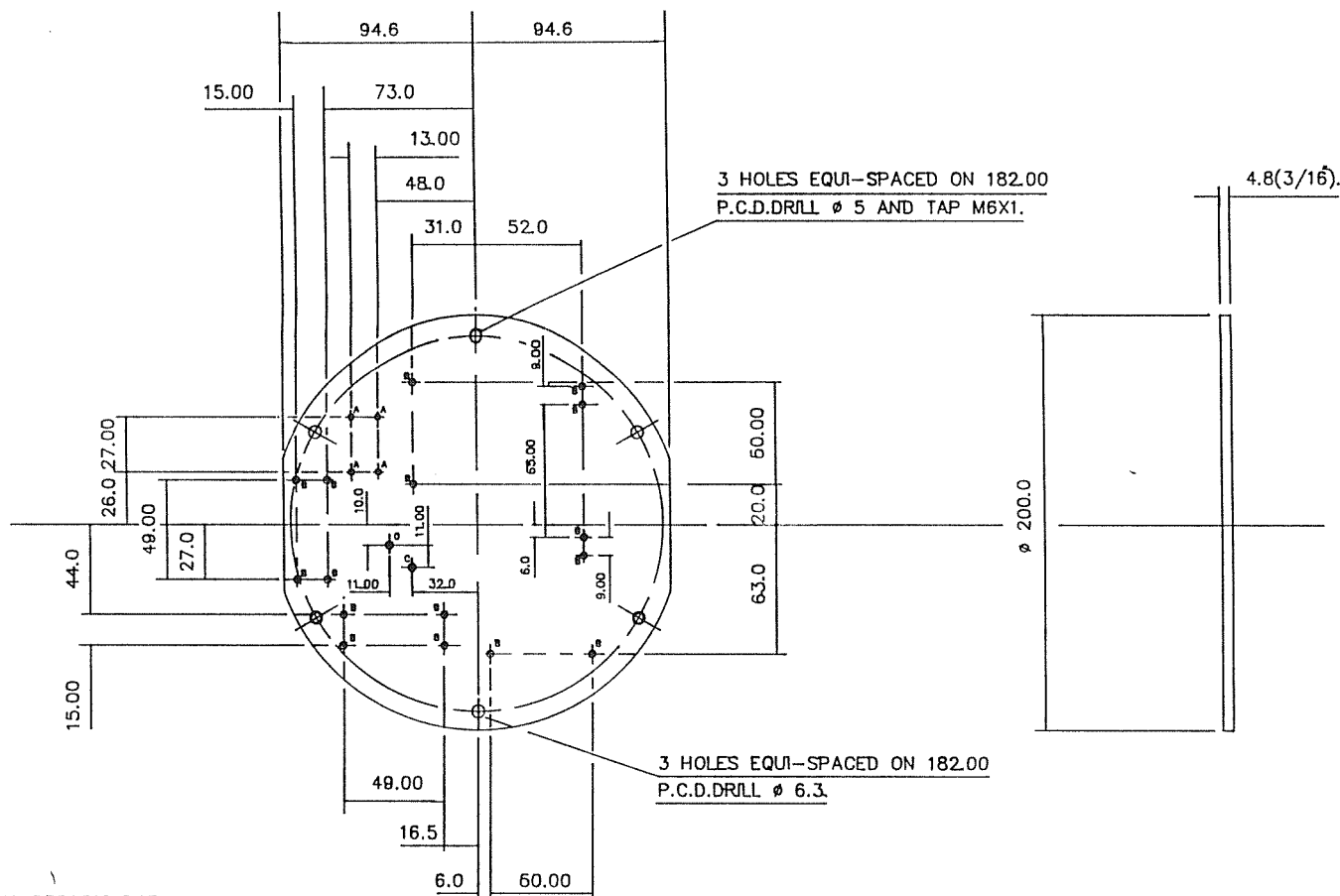


DRAWING No. I.O.S./C5597
 DETAIL 106.

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



ADDITIONAL DRILLING DATA.

- 4 HOLES (A) DRILL ϕ 2.5 AND TAP M3X.5.
- 16 HOLES (B) DRILL ϕ 3.5.
- 2 HOLES (C) DRILL ϕ 3.3 AND TAP M4X.7.

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

O/No. W/S

CHECKED

TRACED

DRAWN

B.J.L

MATERIAL AL ALLOY HS-30-WP.	PROTECTIVE FINISH ANODISE NATURAL CHROMIC ACID.	TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm 0.1\text{mm}$. $x = \pm 0.4\text{mm}$ $xx = \pm 0.1\text{mm}$	AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
No.OFF PER UNIT 1.	TOTAL No.OFF					CERTIFIED	1.	13/11/82
DIMENSIONS IN m.m.	SCALE	DO NOT SCALE	INSTITUTE OF OCEANOGRAPHIC SCIENCES					
			TITLE FLUXGATE MOUNTING PLATE.			DRAWING No. I.O.S./C5597 DETAIL 106.		

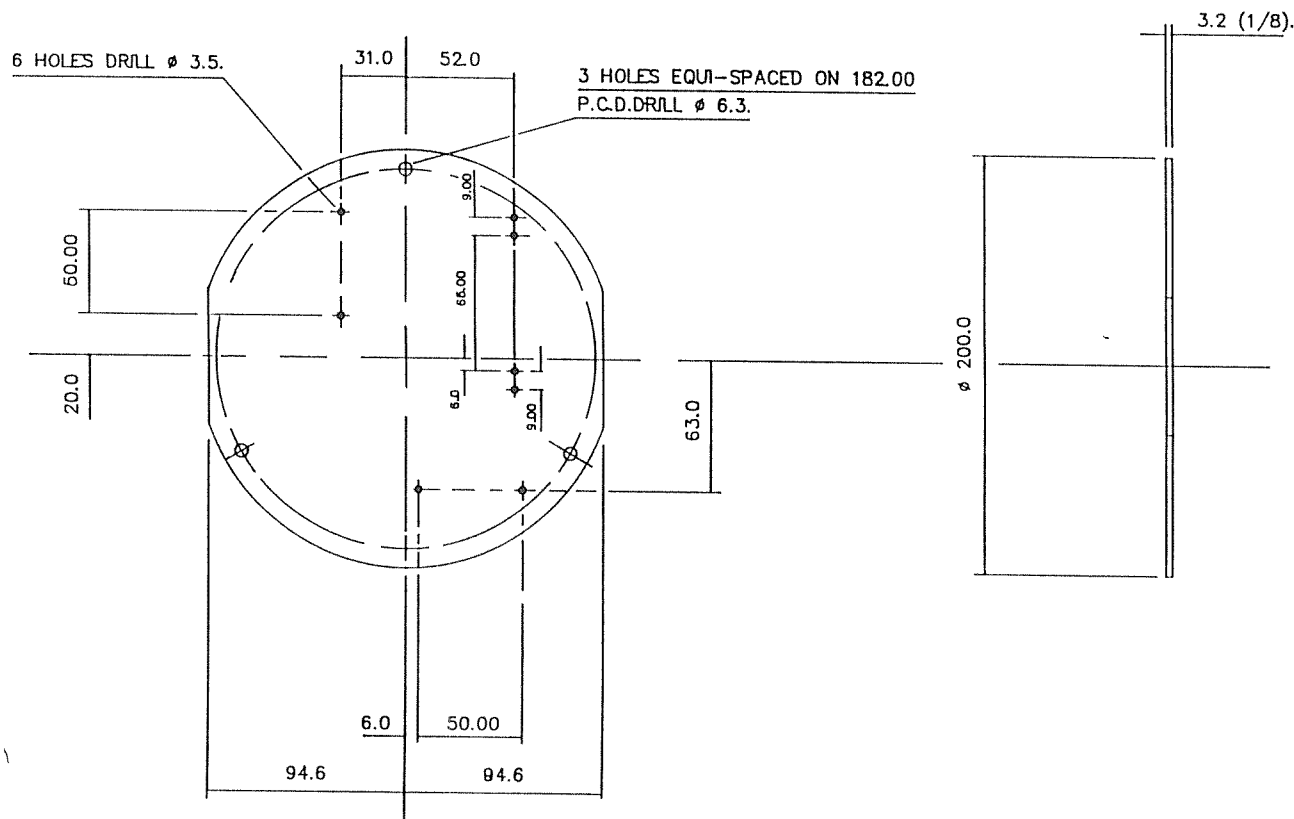
SIZE C

DRAWING No. I.O.S./C5597
DETAIL 107.

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



O/No. W/S

CHECKED

TRACED

DRAWN

B.H.

SIZE C

MATERIAL
RIGID P.V.C.

PROTECTIVE FINISH

No.OFF
PER UNIT 1.

TOTAL
No.OFF

DIMENSIONS IN m.m.

SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED: 1m.m.

10⁺ = + / - .4m.m.

100⁺ = + / - .1m.m.

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

CERTIFIED

ISSUE

DATE

1.

18/11/82

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

PROTECTOR PLATE.

DRAWING No.
I.O.S./C5597

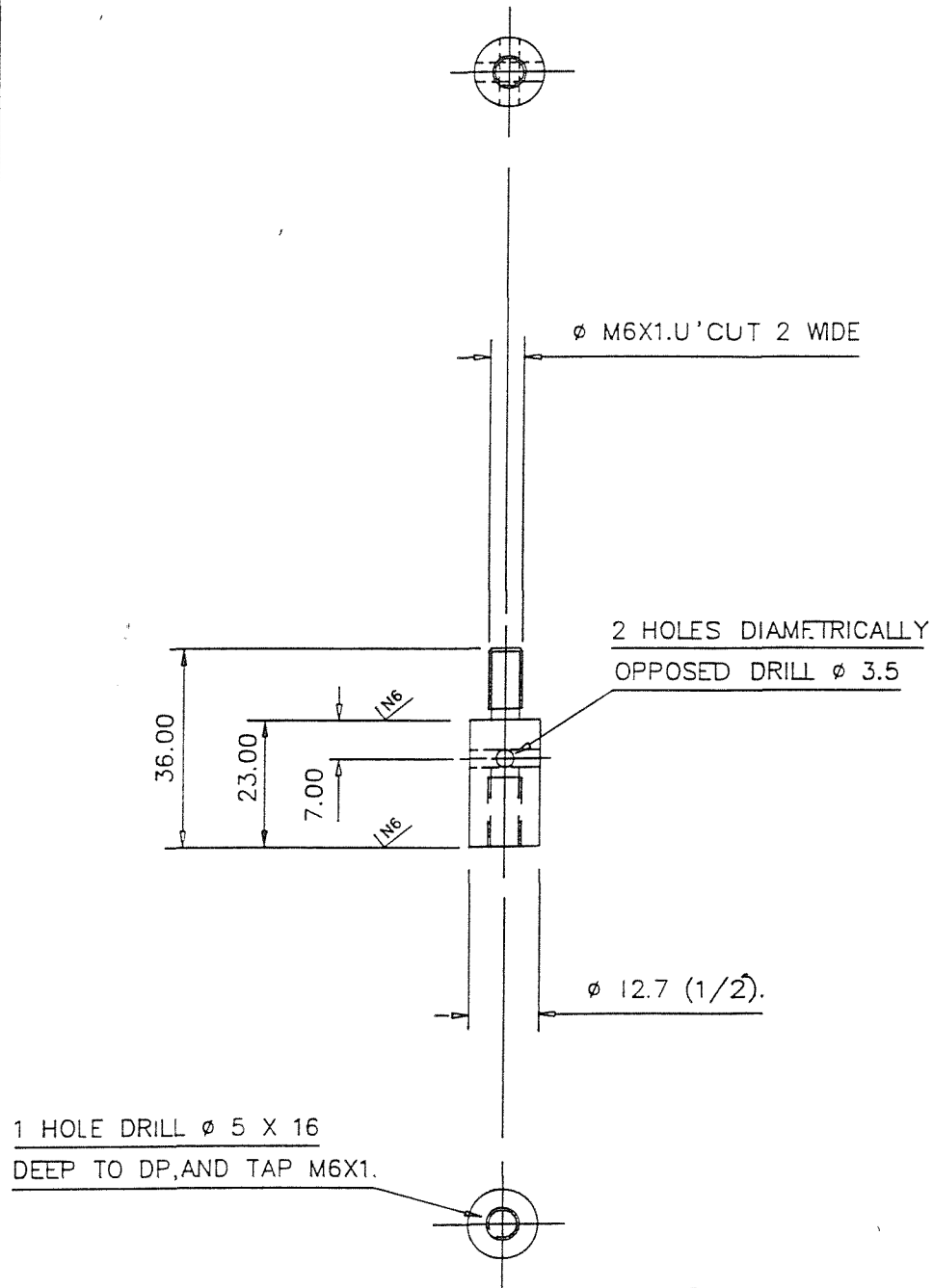
DETAIL
107.

DRAWING No. DETAIL
I.O.S./C5597 108

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc. SEE B.S.308.

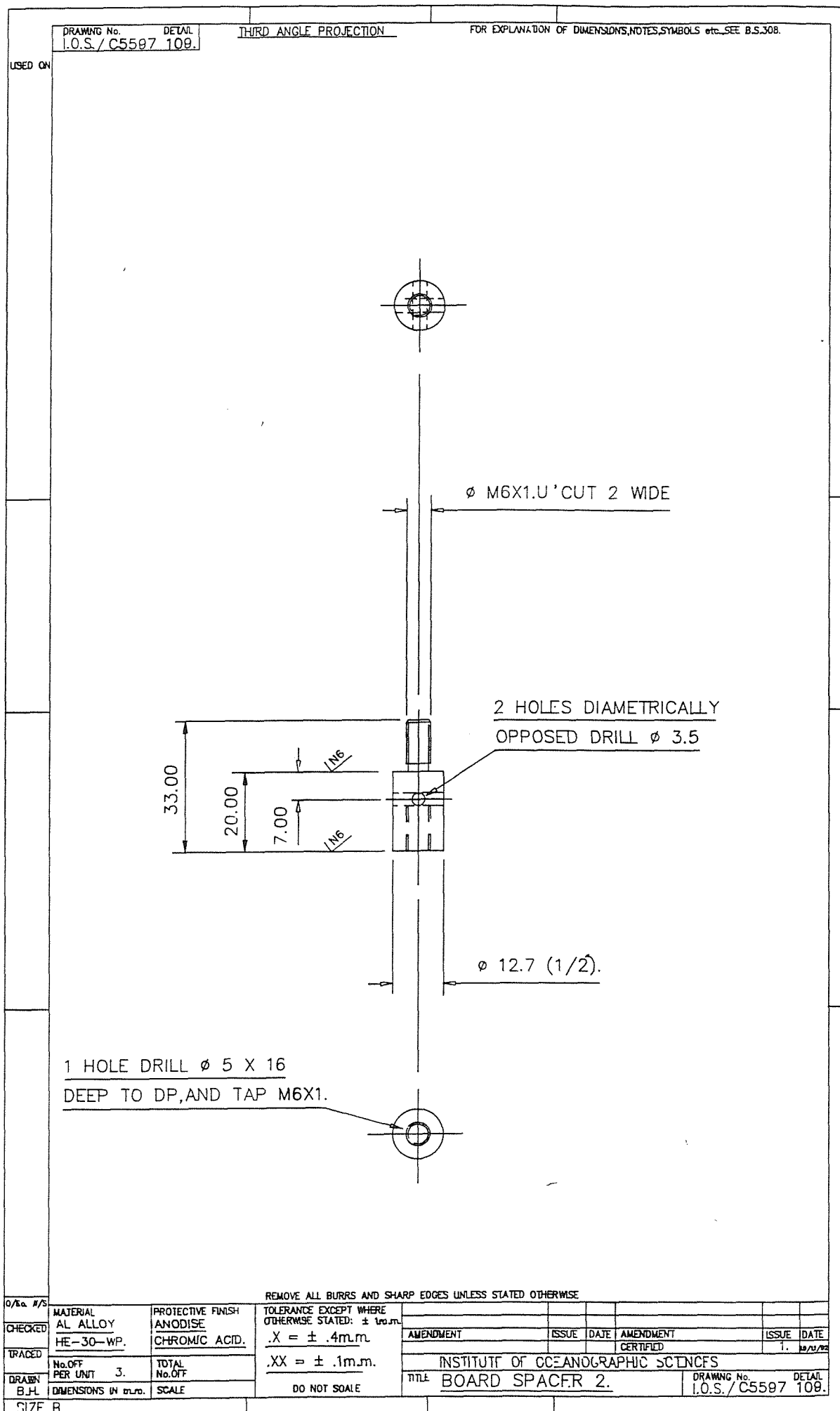
USED ON



O/Ba. W/S

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

DATE	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.001								
CHECKED	AL ALLOY -FE-30-WP.	ANODISE CHROMIC ACID.	.X = ± 0.001	AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE		
TRACED			.XX = ± 0.002	INSTITUTE OF OCEANOGRAPHIC SCIENCES							
DRAWN	No. OFF PER UNIT 3.	TOTAL No. OFF		TITLE				DRAWING No.		DETAIL	
B.J.L.	DIMENSIONS IN mm.	SCALE	DO NOT SCALE	BOARD SPACER 1.				I.O.S./C5597		108	
SIZE											

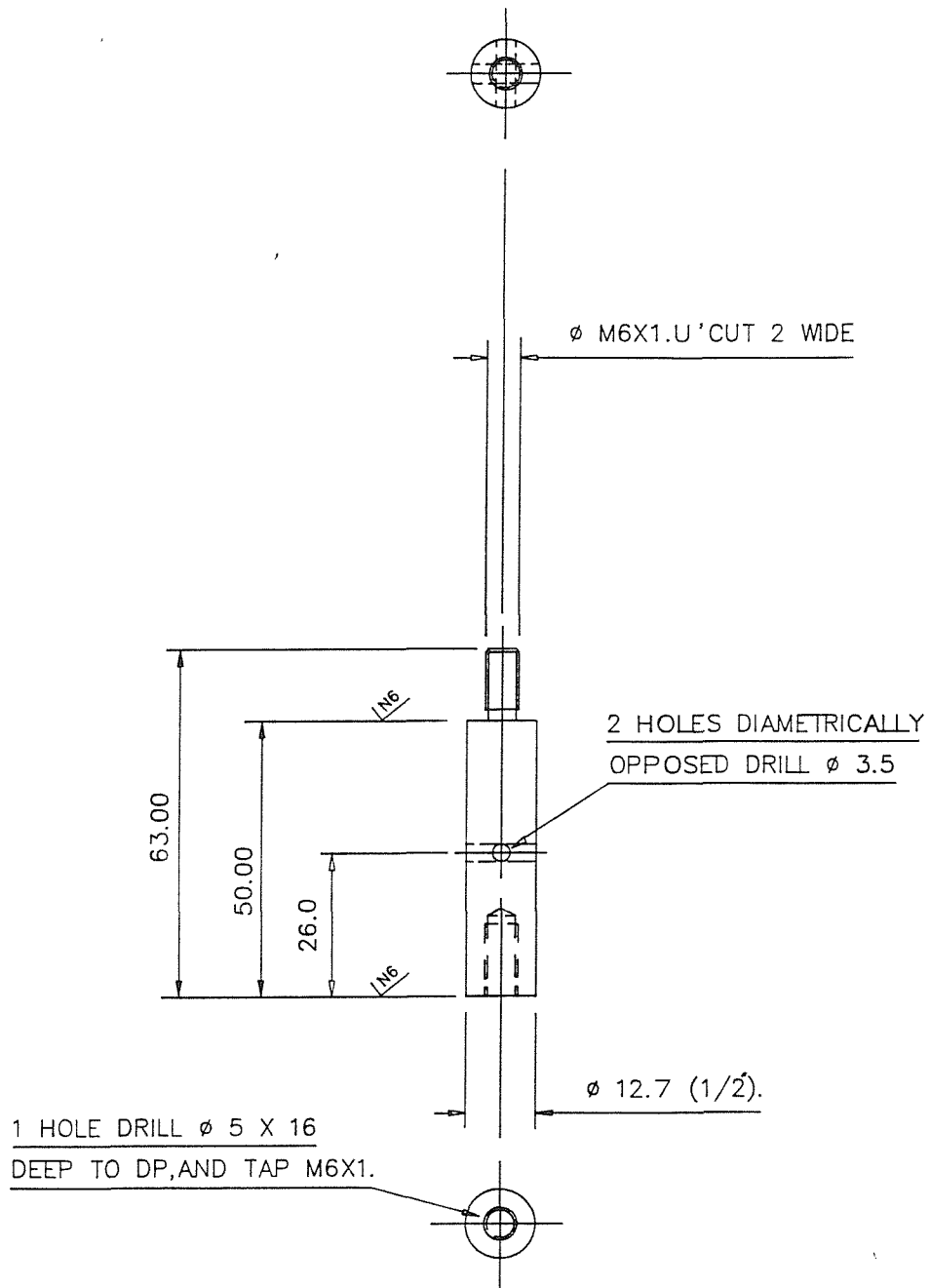


DRAWING No. DETAIL
I.O.S./C5597 110

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc. SEE B.S.308.

USED ON



O/Ba. W/S

CHECKED

TRACED

DRAWN

SIZE B

MATERIAL
AL ALLOY
HE-30-WP.

PROTECTIVE FINISH
ANODISE
CHROMIC ACID.

No. OFF
PER UNIT 3.

TOTAL
No. OFF

DIMENSIONS IN mm.

SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
OTHERWISE STATED: $\pm$ 0.05mm

.X = $\pm$ 0.4mm

.XX = $\pm$ 0.1mm

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

CERTIFIED

ISSUE

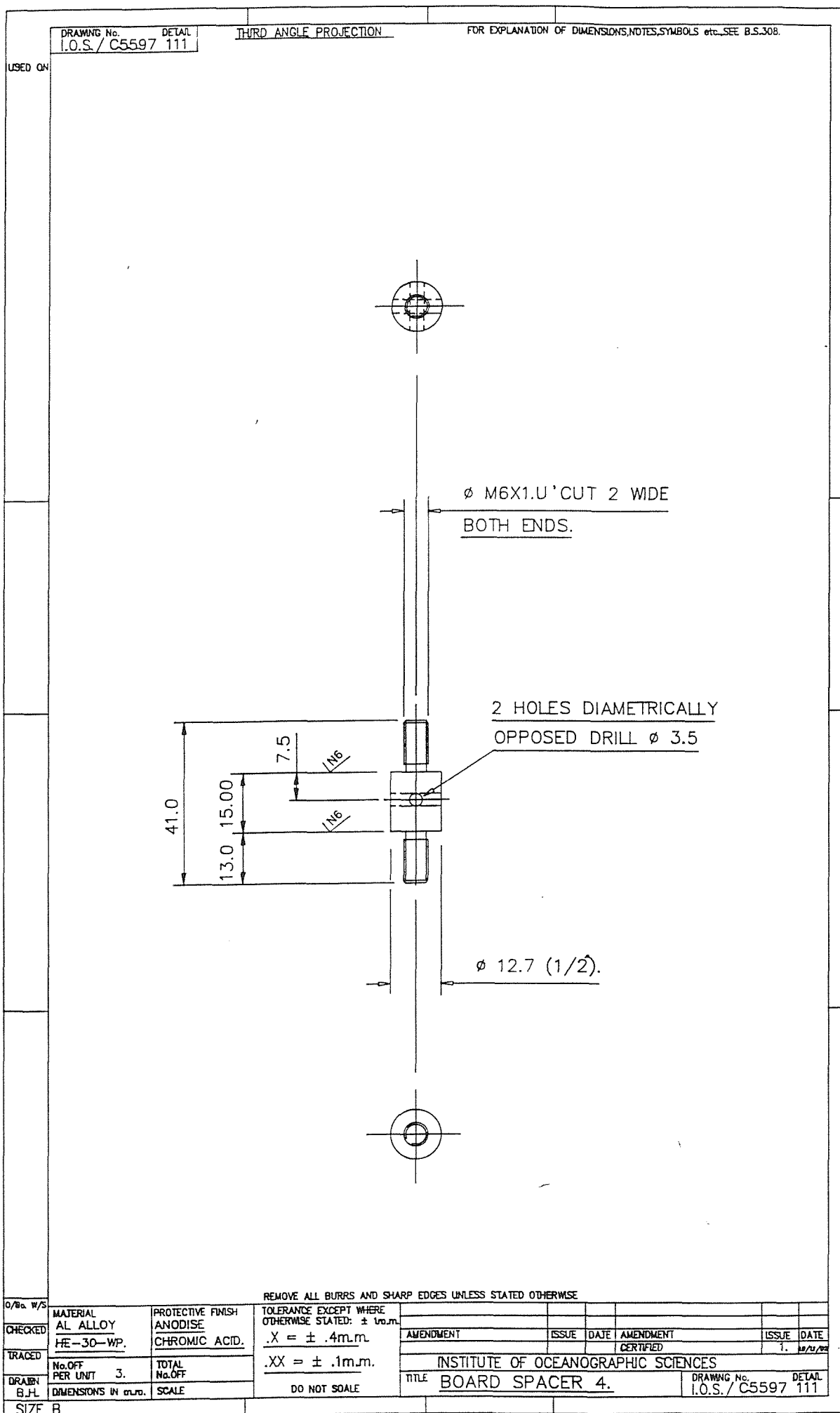
DATE

1. 18/11/88

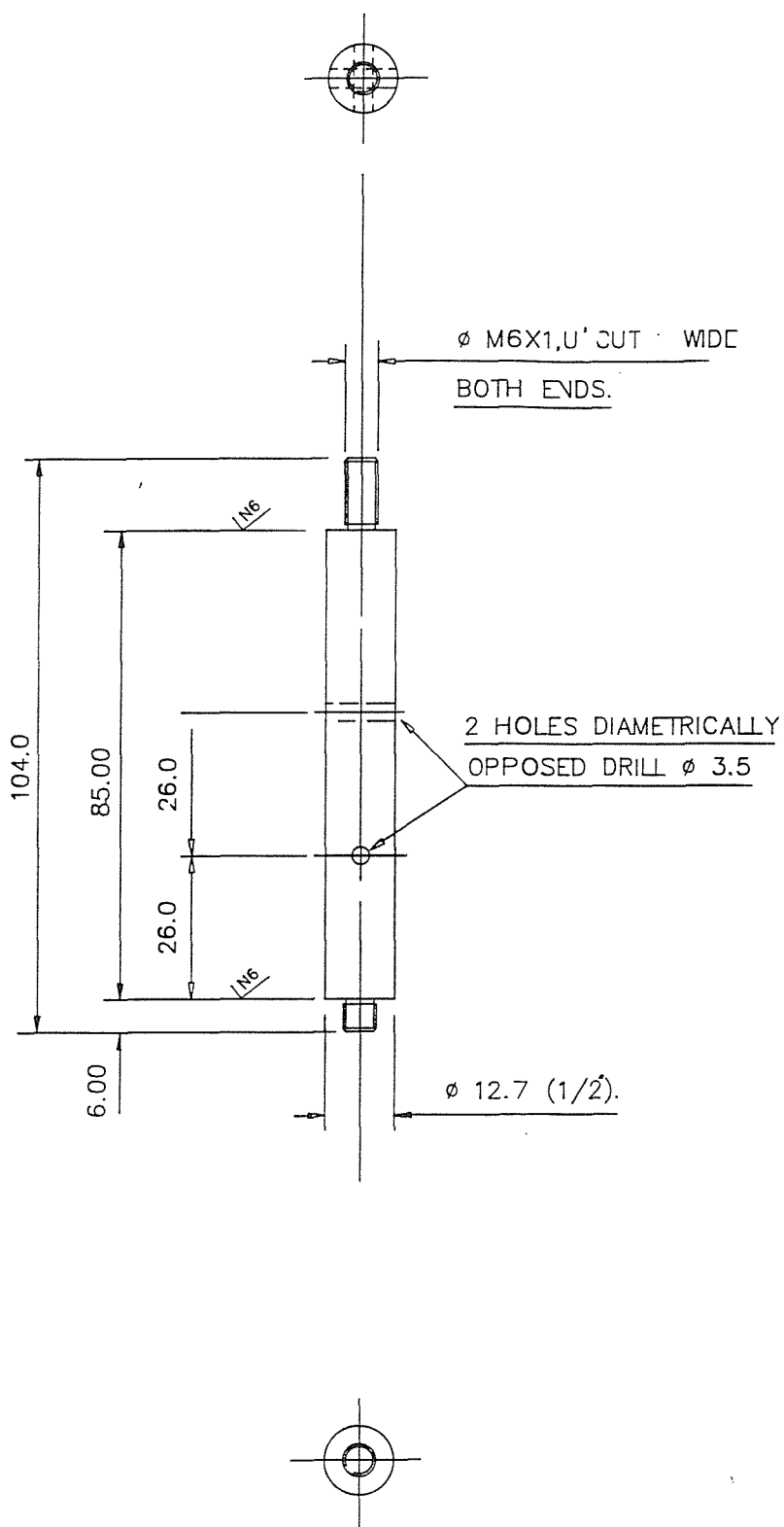
INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE BOARD SPACER 3.

DRAWING No. DETAIL
I.O.S./C5597 110

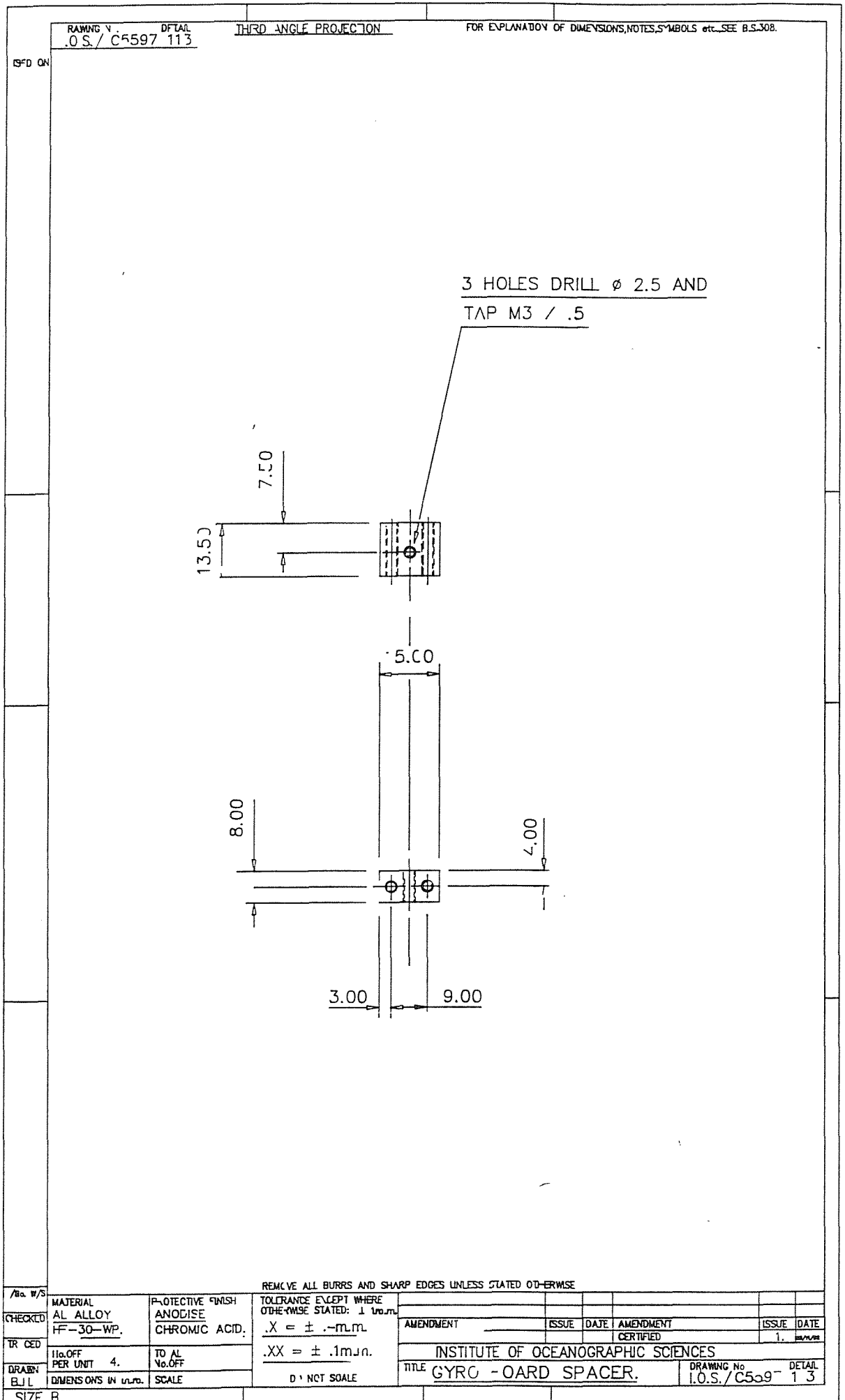


USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

7/8a 1/2 S		MATERIAL AL ALLOY		PROTECTIVE FINISH ANODISE		TOLERANCE EXCEPT WHERE TOLERANCE STATED: $\pm .1m.m.$									
CHECKED		HT-30 WP.		CHROMIC \ICD.		$.X = \pm .4m.m.$		AMENDMENT		ISSUE	DATE	AMENDMENT		ISSUE	DATE
TRACED						$.XX = \pm .1m.m.$						CERTIFIED		1.	10/2/75
DRAWN B.J.L.		No.OFF PER UNIT 3.		TOTAL No.OFF				INSTITUTE OF OCEANOGRAPHIC SCIENCES							
SIZE B		DIMENSIONS IN mm.		SCALE		DO NOT SCALE		TITLE INCLINOMETER SPACER.				DRAWING No. I.O.S./C5597		DETAIL 12	

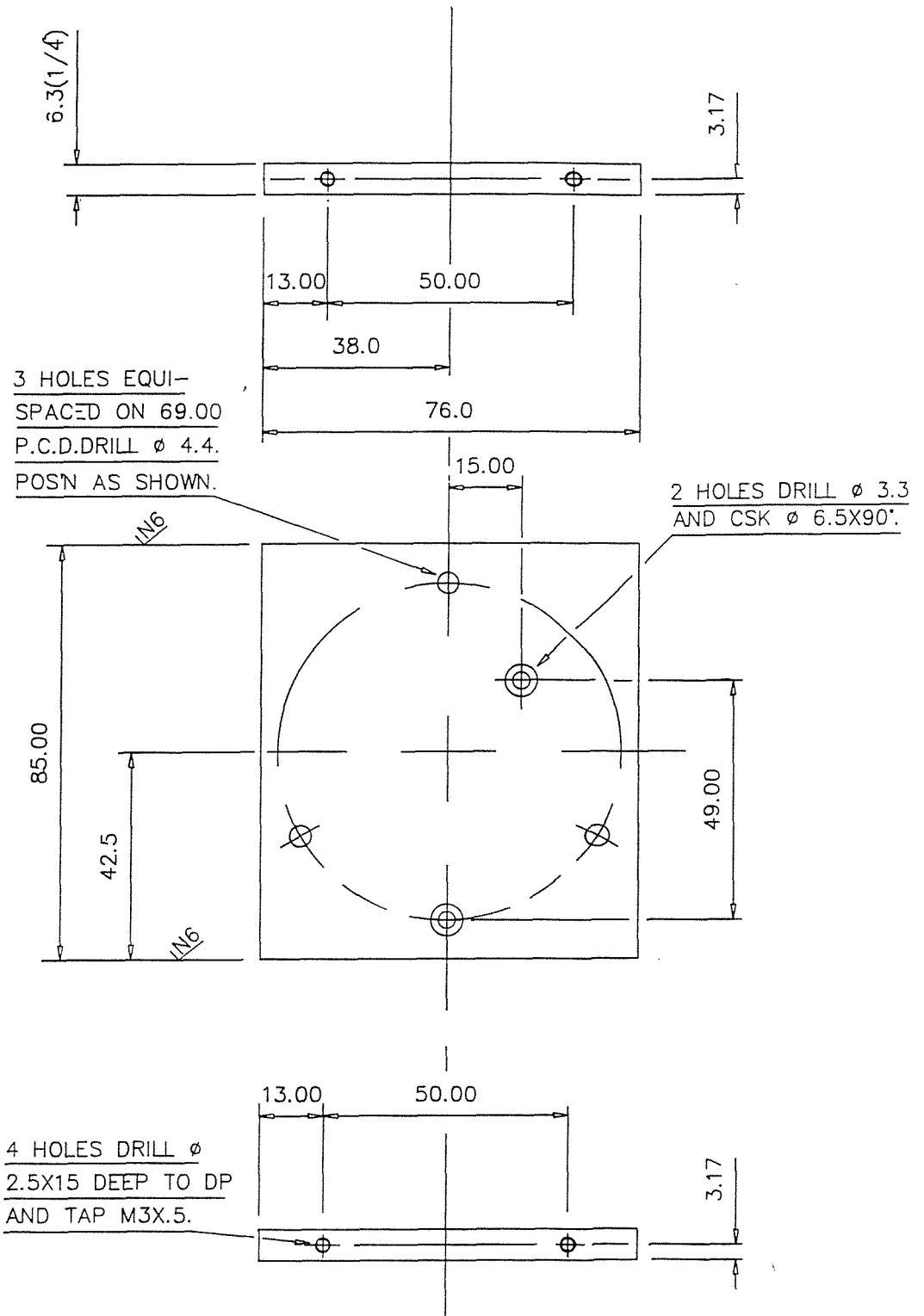


DRAWING No. I.O.S./C5597
DETAIL 114

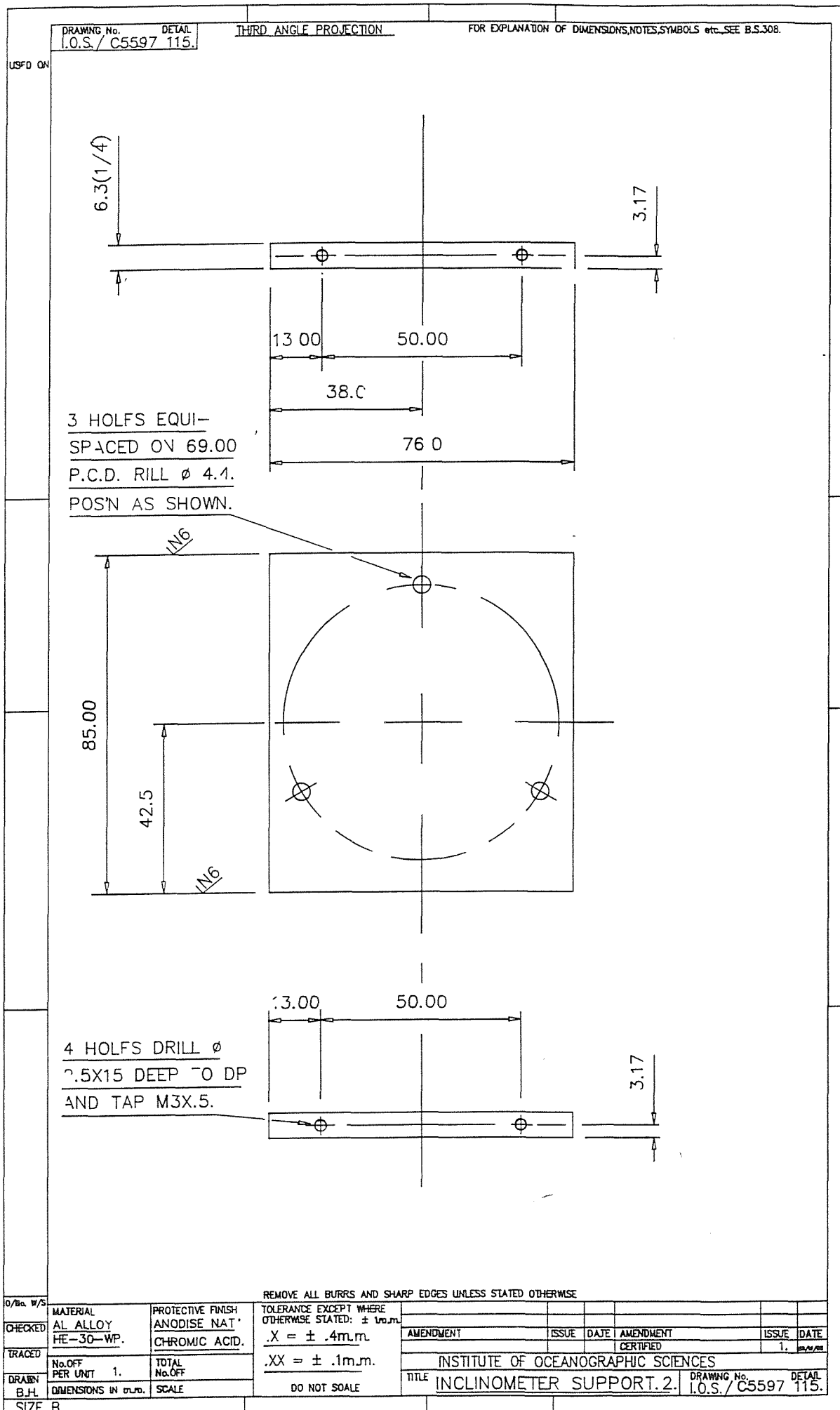
THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



Q/No. W/S		REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE									
CHECKED	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm$ 0.05mm								
	AL ALLOY	ANODISE NAT'	.X = $\pm$.04mm		AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE	
TRACED	HE-30-WP.	CHROMIC ACID.	.XX = $\pm$.1mm		INSTITUTE OF OCEANOGRAPHIC SCIENCES			1. REVISED			
	No. OFF PER UNIT	TOTAL No. OFF									
DRAWN	B.J.L.		DO NOT SCALE		TITLE			DRAWING No.			DETAIL
	DIMENSIONS IN mm.		SCALE		INCLINOMETER SUPPORT.1.			I.O.S./C5597			114
SIZE											



0/Ba. W/S

CHECKED

TRACED

DRAWN

SIZE B

AL ALLOY HE-30-WP.	PROTECTIVE FINISH ANODISE NAT' CHROMIC ACID.
No.OFF PER UNIT 1. TOTAL No.OFF	SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.1mm

.X = ± .4mm

.XX = ± .1mm

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE INCLINOMETER SUPPORT.2.

DRAWING No. I.O.S./C5597

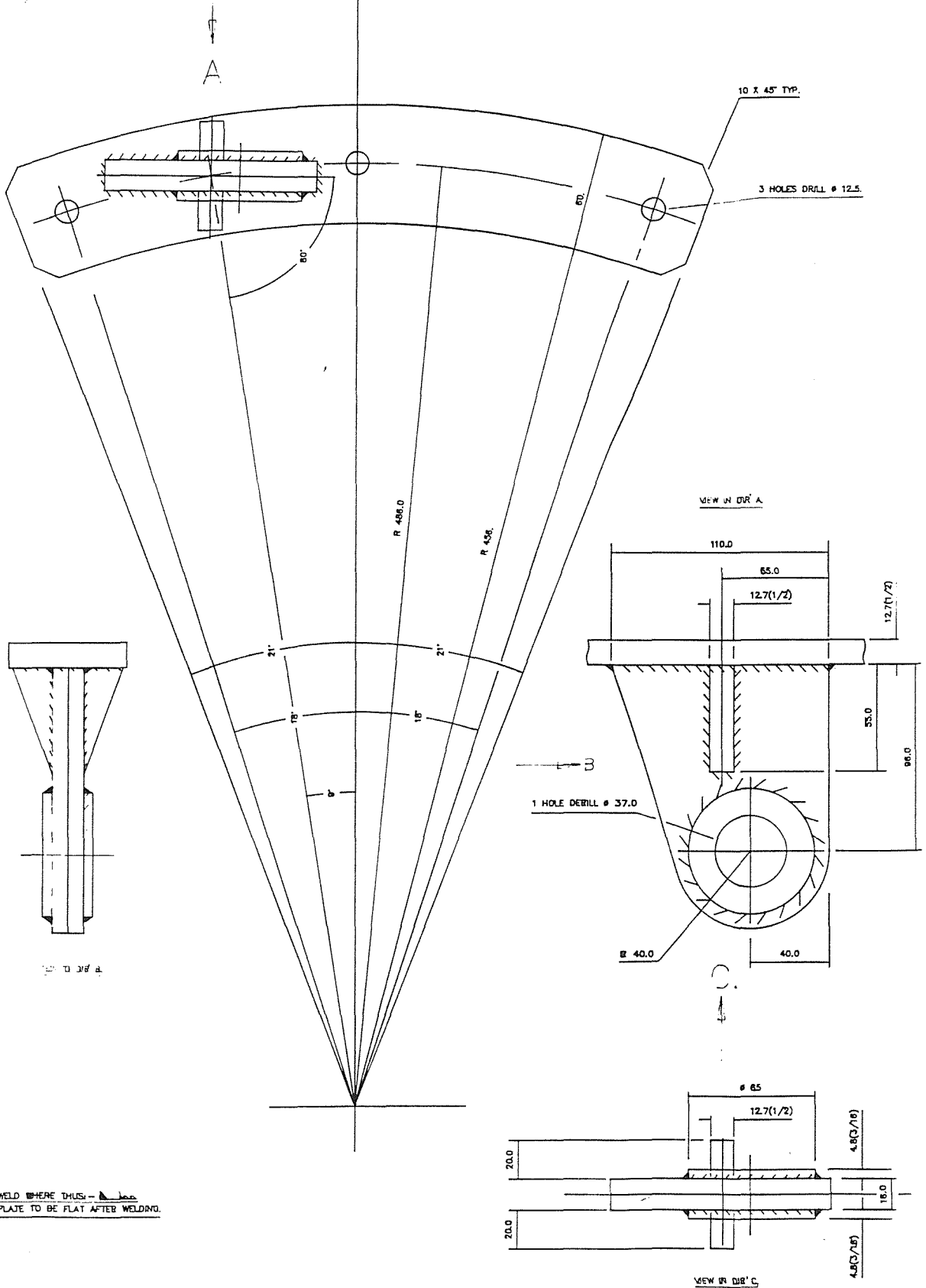
DETAIL 115.

DRAWING No. DETAIL
I.O.S./ C5597 116.

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/Sa. W/S

CHECKED

TRACED

DRAWN

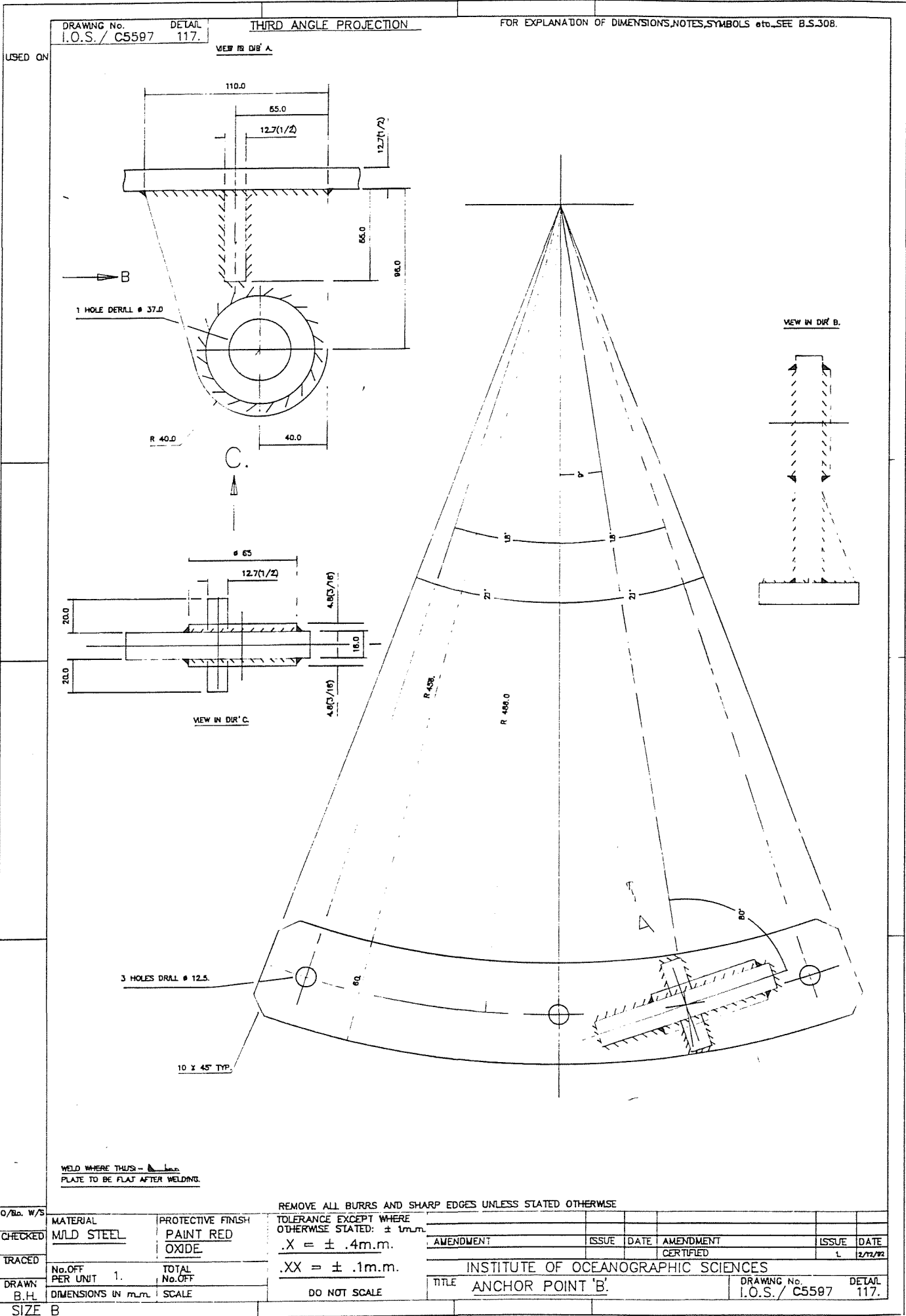
SIZE B

MATERIAL	MILD STEEL	PROTECTIVE FINISH	PAINT RED OXIDE
No.OFF PER UNIT	1.	TOTAL No.OFF	
DIMENSIONS IN mm		SCALE	

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm 1\text{mm}$
.X = $\pm .4\text{m.m.}$
.XX = $\pm .1\text{m.m.}$
DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	1/72/92
INSTITUTE OF OCEANOGRAPHIC SCIENCES					
TITLE ANCHOR POINT 'A'				DRAWING No. DETAIL I.O.S./ C5597 116.	

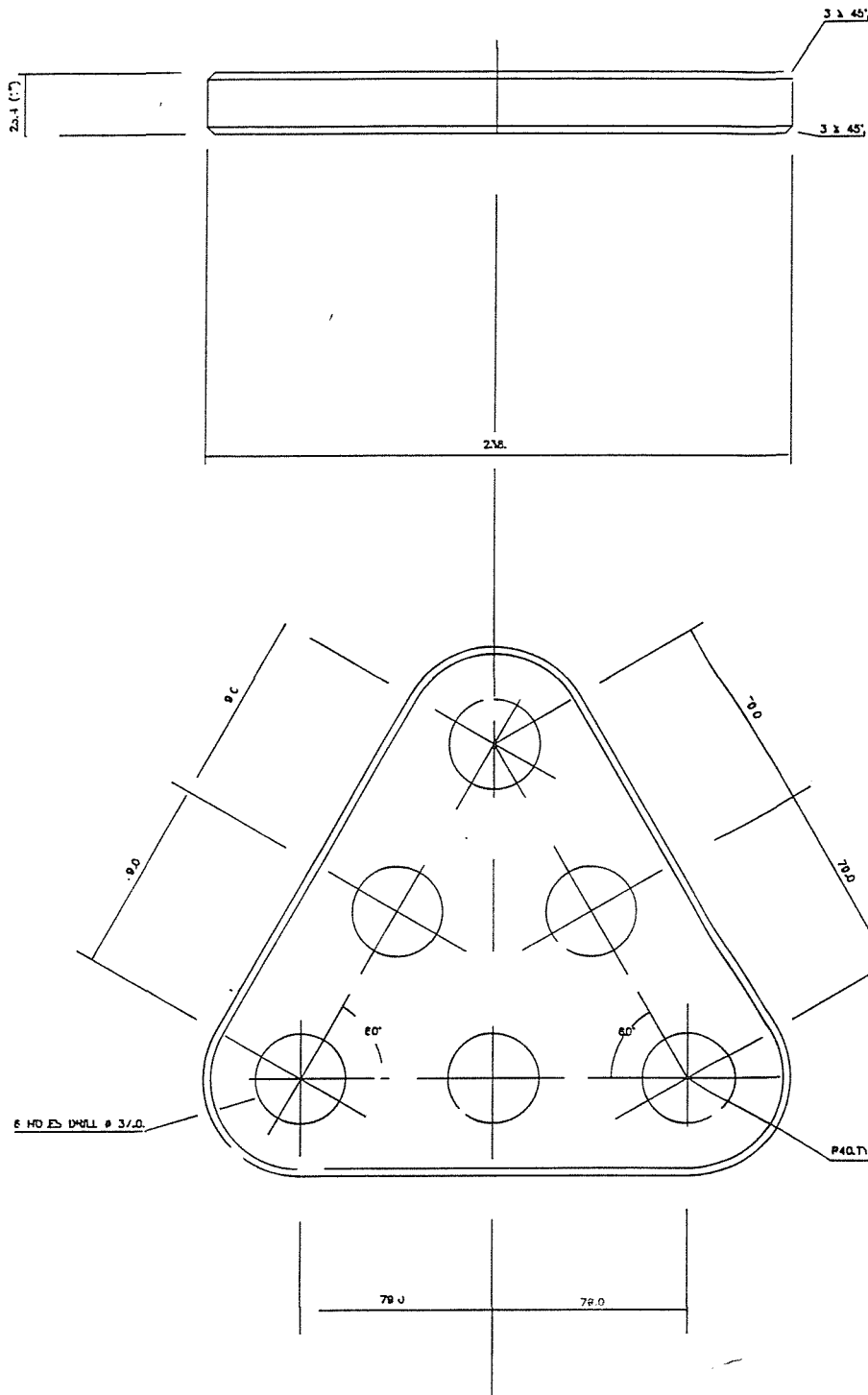


DRAWING No. 0 S. / C559 /
DETAIL 118.

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



O/S. N/S

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

CHECKED	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm$ mm	AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
TRAILED	MON STEEL	CALVANISED	$\pm$.4mm.						
DRAWN	No. OFF PER UNIT 1.	TOTAL No. OFF	XX = $\pm$.1mm.	INSTITUTE OF OCEANOGRAPHIC SCIENCES					
BL.	DIMENSIONS IN mm	SCALE	DO NOT SCALE	TITLE SPREADER PLATE.			DRAWING No. I.O.S. / C5597		
SIZE B							DETAIL 118.		

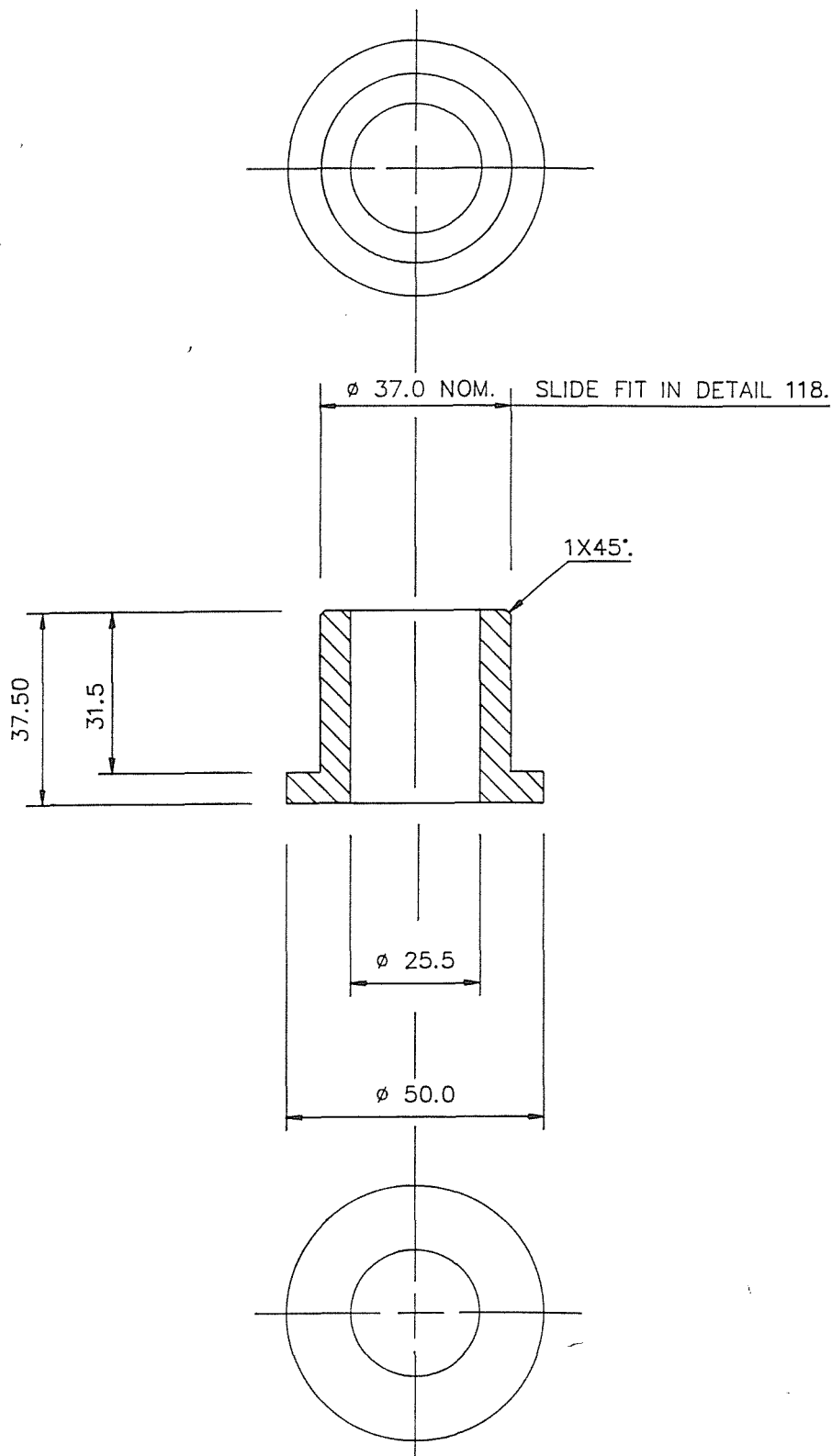
DRAWING No. I.O.S./C5597		DETAIL 120.	THIRD ANGLE PROJECTION		FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.			
USED ON								
O/No. W/S		REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE						
CHECKED	MATERIAL POLYPROPYLENE	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 1m.m.		AMENDMENT	ISSUE	DATE	
TRACED	No.OFF PER UNIT 2	TOTAL No.OFF	.X = ± .4m.m.		CERTIFIED			
DRAWN B.H.	DIMENSIONS IN m.m.		.XX = ± .1m.m.		INSTITUTE OF OCEANOGRAPHIC SCIENCES			
SIZE B	SCALE		DO NOT SCALE		TITLE ANCHOR BUSH WASHER.		DRAWING No. I.O.S./C5597	
						DETAIL 120.		

DRAWING No. DETAIL
I.O.S./C5597 121

THIRD ANGLE PROJECTION

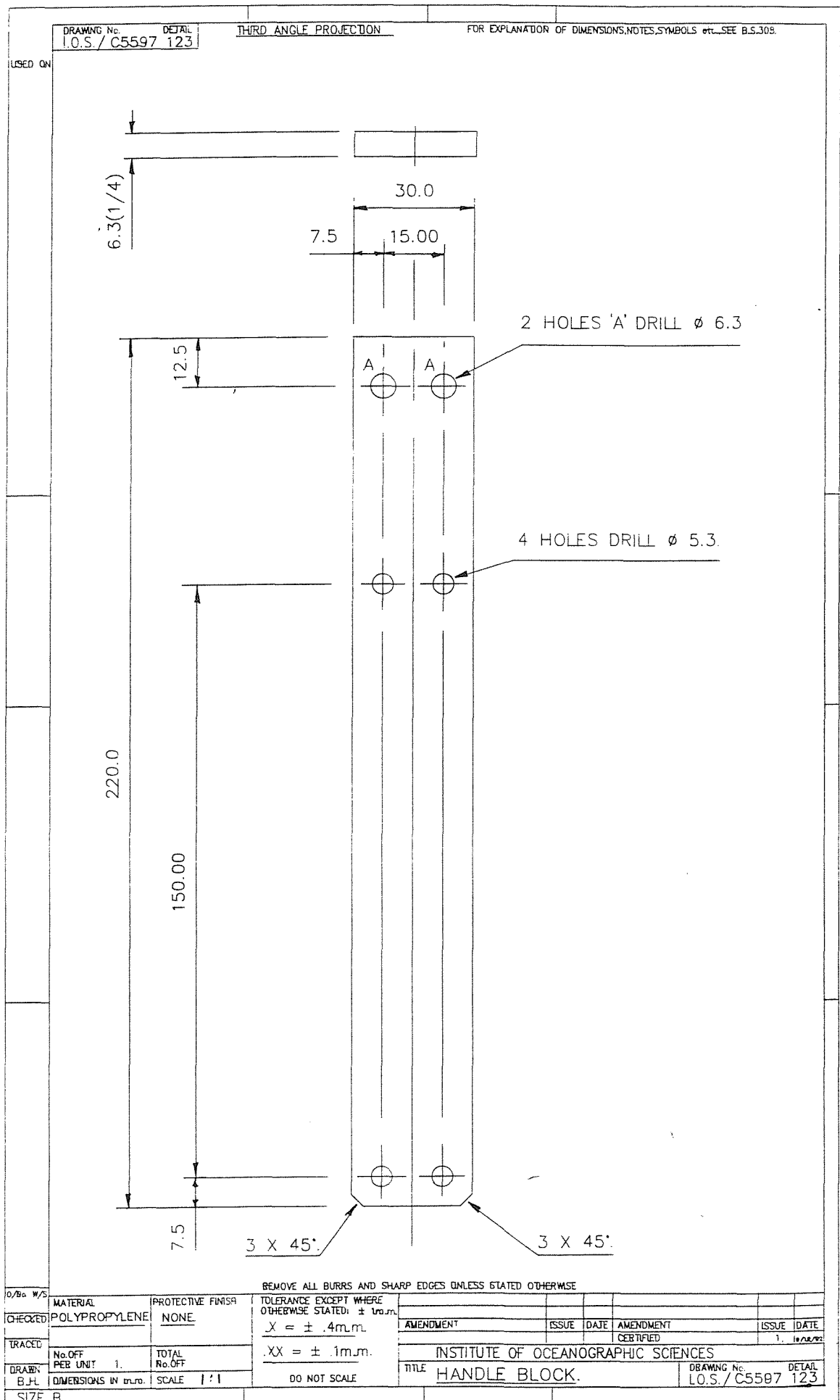
FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE			
0/No. W/S	MATERIAL POLYPROPYLENE	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm 1\text{m.m.}$
CHECKED			.X = $\pm .4\text{m.m.}$
TRACED	No.OFF PER UNIT 3.	TOTAL No.OFF	.XX = $\pm .1\text{m.m.}$
DRAWN B.H.	DIMENSIONS IN m.m.	SCALE	DO NOT SCALE
SIZE B			
INSTITUTE OF OCEANOGRAPHIC SCIENCES			
TITLE SPREADER PLATE BUSH.			
DRAWING No. DETAIL I.O.S./C5597 121			

DRAWING No. I.O.S./ C5597		DETAIL 122	THIRD ANGLE PROJECTION		FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.						
USED ON											
0/No. W/S		REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE									
CHECKED	MATERIAL POLYPROPYLENE	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 1m.m. .X = ± .4m.m. .XX = ± .1m.m.		AMENDMENT		ISSUE	DATE	AMENDMENT	ISSUE	DATE
TRACED	No.OFF PER UNIT 3.	TOTAL No.OFF	DO NOT SCALE		INSTITUTE OF OCEANOGRAPHIC SCIENCES		CERTIFIED				
DRAWN B.H.	DIMENSIONS IN m.m.		SCALE		TITLE SPREADER PLATE WASHER.		DRAWING No. I.O.S./ C5597		DETAIL 122		
SIZE B											



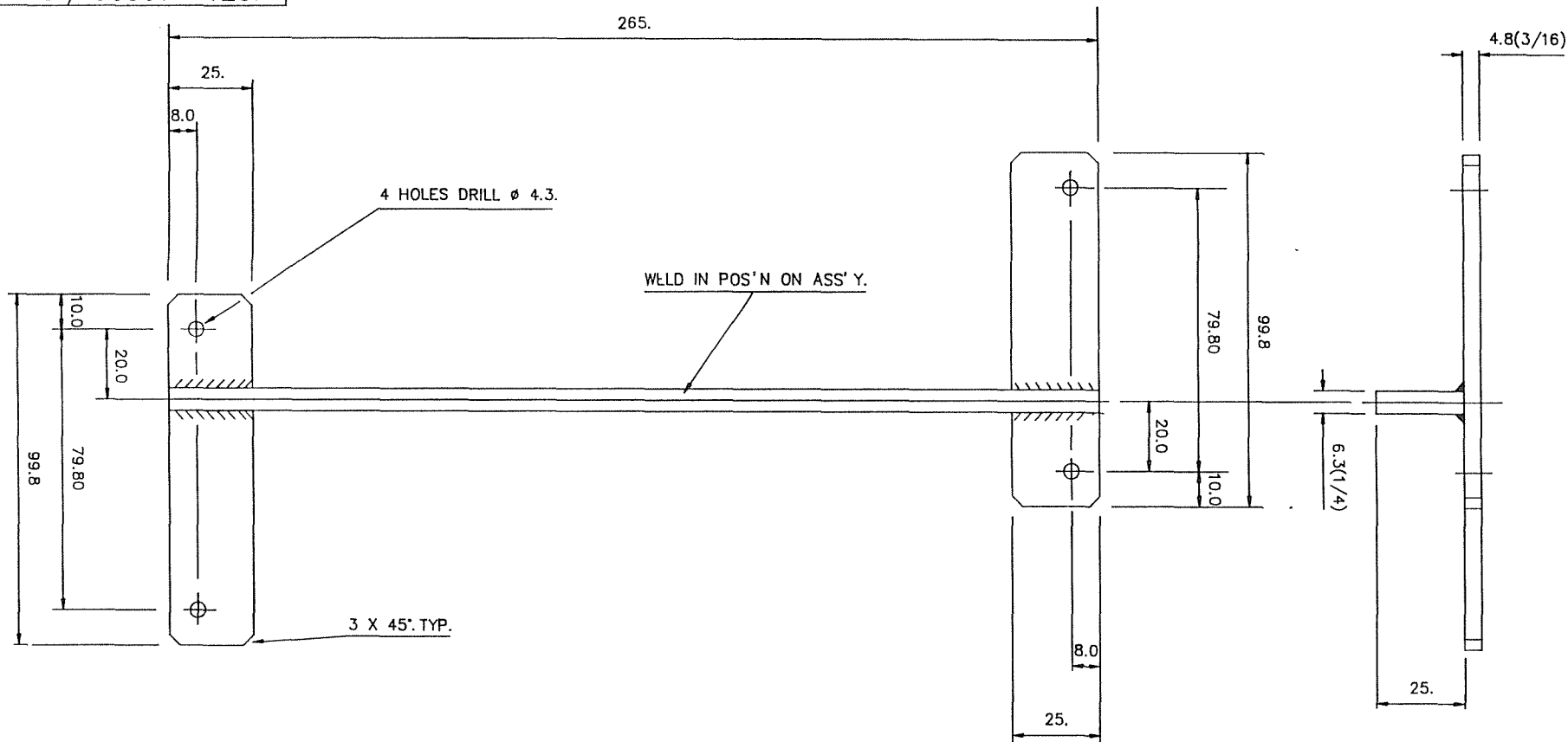
DRAWING No.		DETAIL		THIRD ANGLE PROJECTION		FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc. SEE B.S.308.					
10.S / C5597		124									
USED ON											
25.4(1) 12.7 7.5 15.00 30.0 152.0 2 HOLES DRILL Ø 5 X 15 LG TO DRILL PT AND TAP M6 X 1.											
REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE											
MATERIAL		PROTECTIVE FINISH		TOLERANCE EXCEPT WHERE OTHERWISE STATED: ± 0.001							
POLYPROPYLENE		NONE		X = ± 0.001							
No. OFF PER UNIT		TOTAL No. OFF		XX = ± 0.001							
1.											
DIMENSIONS IN mm.		SCALE 1:1		DO NOT SCALE							
SIZE B											
CHECKED				AMENDMENT		ISSUE		DATE			
TRACED						CERTIFIED		1. 10/12/02			
DRAWN				INSTITUTE OF OCEANOGRAPHIC SCIENCES							
B.H.				TITLE		HANDLE BLOCK LOCATOR		DRAWING No. 10.S / C5597			
								DETAIL 124			

DRAWING No. I.O.S./C5597
 DETAIL 125.

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



WELD WHERE: THIS: -

O/No. W/S

CHECKED

TRACED

DRAWN

SIZE C

MATERIAL
 POLYTHENE.

PROTECTIVE FINISH

No.OFF
 PER UNIT 1.

TOTAL
 No.OFF

DIMENSIONS IN m.m.

SCALE

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED: ± 0.1 m.m.

.X = ± 0.4 m.m.

.XX = ± 0.1 m.m.

DO NOT SCALE

AMENDMENT

ISSUE

DATE

AMENDMENT

ISSUE

DATE

CERTIFIED

1.

9/12/92.

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE COMPASS RETAINER.

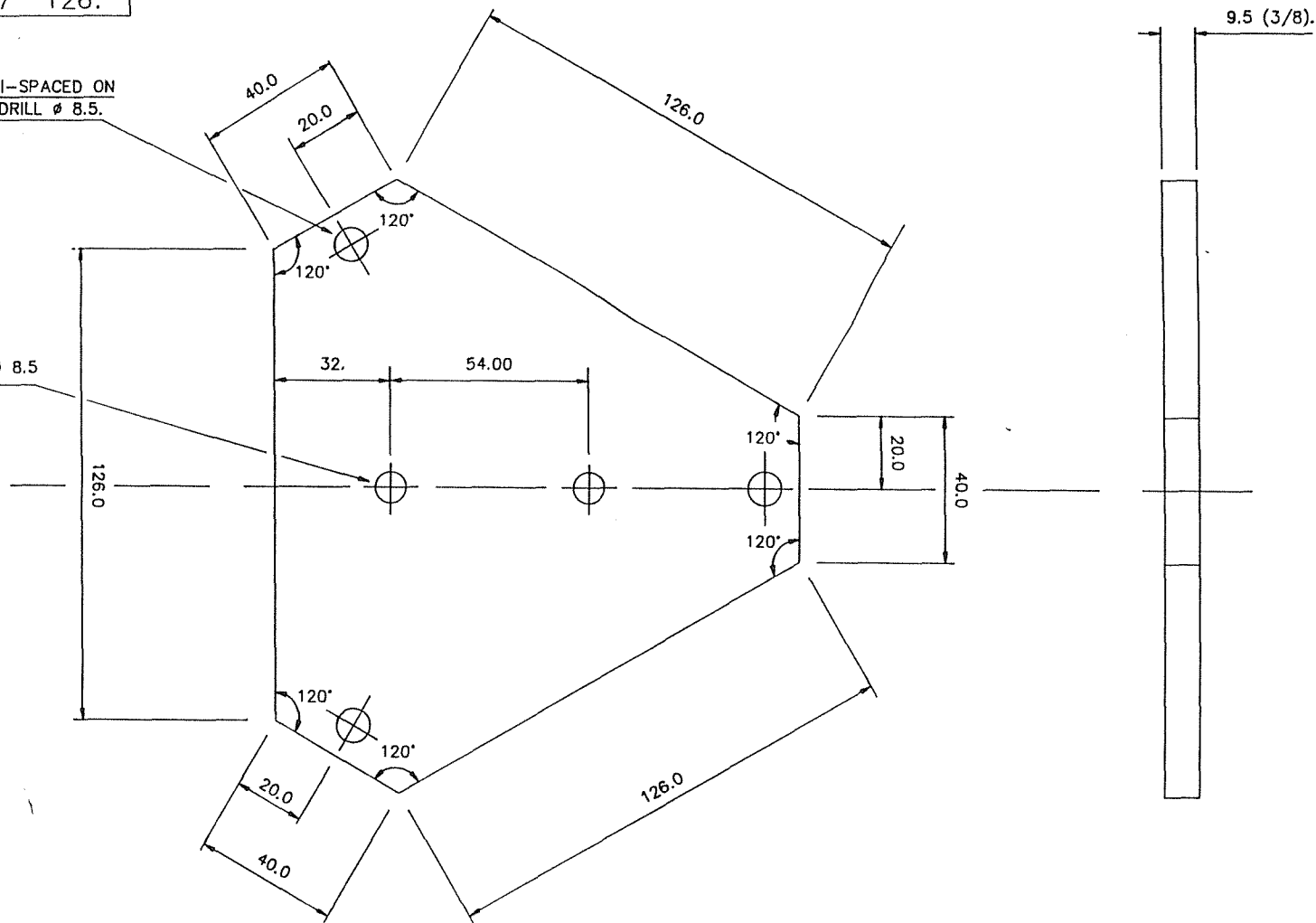
DRAWING No.
 I.O.S./C5597

DETAIL
 125.

USED ON

3 HOLES EQUI-SPACED ON
149.58 P.C.D.DRILL ϕ 8.5.

2 HOLES DRILL ϕ 8.5



REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

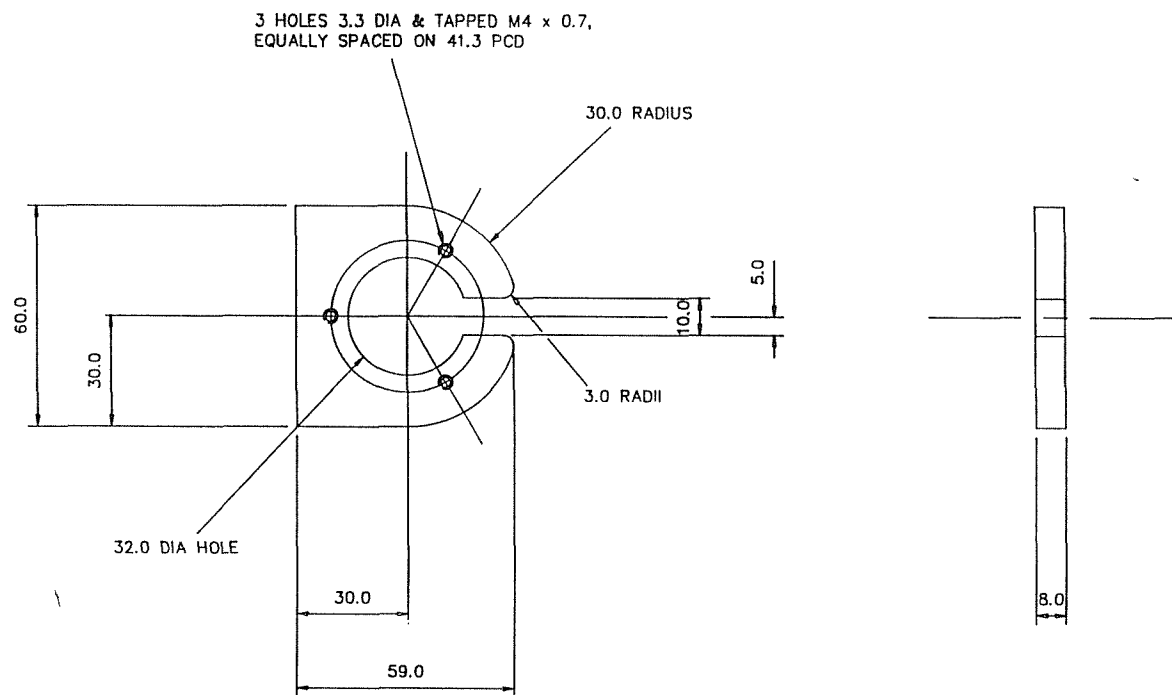
Q/No. W/S	MATERIAL	PROTECTIVE FINISH	TOLERANCE EXCEPT WHERE OTHERWISE STATED: $\pm 1\text{m.m.}$	REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE					
CHECKED	POLYPROPYLENE.	NONE.	$.X = \pm .4\text{m.m.}$ $.XX = \pm .1\text{m.m.}$						
TRACED				AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
	No.OFF PER UNIT 1.	TOTAL No.OFF		INSTITUTE OF OCEANOGRAPHIC SCIENCES					
DRAWN B.H.	DIMENSIONS IN m.m.	SCALE	DO NOT SCALE	TITLE FLASHING LAMP BASE.			DRAWING No. I.O.S./C5597		
SIZE C							DETAIL 126.		

DRAWING No. I.O.S./ 5597
 DETAIL 127

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS,NOTES,SYMBOLS etc.,SEE B.S.308.

USED ON



O/No. w/s

CHECKED

TRACED

DRAWN
 N. JIMMINS

MATERIAL
 ALUMINIUM ALLOY

PROTECTIVE FINISH

No.OFF
 PER UNIT 1

TOTAL
 No.OFF

DIMENSIONS IN m.m.

SCALE 1:1

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED:

± 0.4

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	26-1-93

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE
 AERIAL MOUNTING PLATE

DRAWING No. I.O.S./ 5597
 DETAIL 127

SIZE C

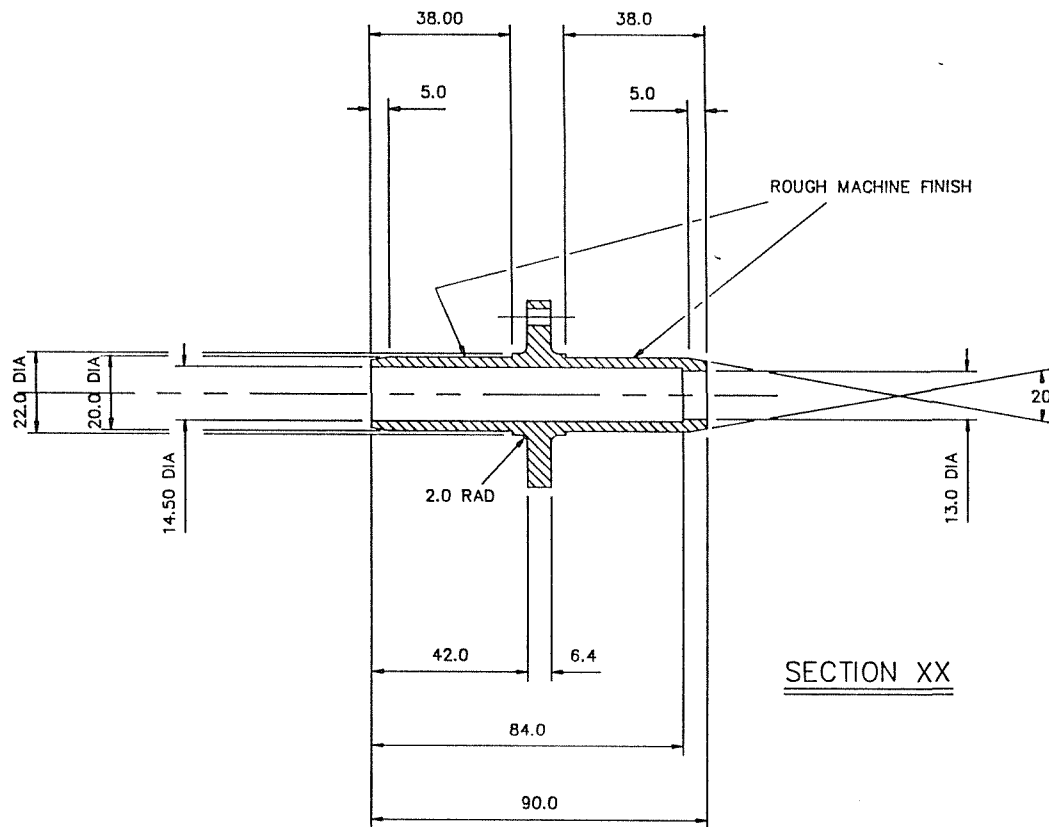
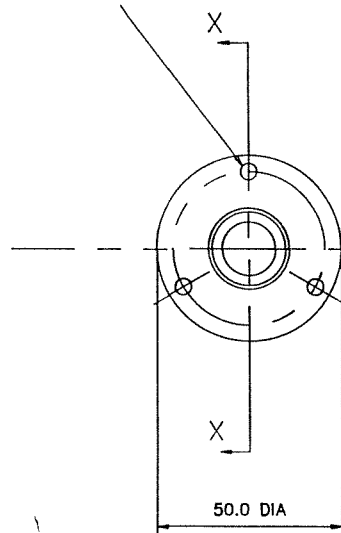
DRAWING No. I.O.S./ 5597
 DETAIL 128

THIRD ANGLE PROJECTION

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S.308.

USED ON

3 HOLES 4.5 DIA & EQUALLY
 SPACED ON 41.30 PCD



SECTION XX

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

TOLERANCE EXCEPT WHERE
 OTHERWISE STATED:

± 0.1

DO NOT SCALE

AMENDMENT	ISSUE	DATE	AMENDMENT	ISSUE	DATE
			CERTIFIED	1	28-1-93

INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE HOUSING FOR AERIAL

DRAWING No. I.O.S./ 5597
 DETAIL 128

O/No. W/S

CHECKED

TRACED

DRAWN

SIZE C

MATERIAL
 NYLATRON GSM

PROTECTIVE FINISH

No.OFF
 PER UNIT 1

TOTAL
 No.OFF

DIMENSIONS IN m.m.

SCALE 1:1

FOR EXPLANATION OF DIMENSIONS, NOTES, SYMBOLS etc., SEE B.S. 308.

BULKHEAD JACK SOCKET-50 OHMS
TYPE RS 456-920
REDUCE HEXAGONAL FLANGE TO 14.0 DIA

5.0 O.DIA x 5.0M LONG COAXIAL CABLE
REFERENCE RG58

REMOVE ALL BURRS AND SHARP EDGES UNLESS STATED OTHERWISE

MATERIAL
POLYURETHANE
SPEC EMC 76

PROTECTIVE FINISH	
-------------------	--

TOLERANCE EXCEPT WHERE
OTHERWISE STATED:

No.OFF
PER UNIT 1

TOTAL	
No.OFF	

DIMENSIONS IN m.m.

SCALE 1:1

DO NOT SCALE

AMENDMENT

ISSUE

DATE _____

AMENDMENT

ISSUE	
-------	--

DATE _____

CERTIFIED

1

DATE	2-2-93
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INSTITUTE OF OCEANOGRAPHIC SCIENCES

TITLE

MOULDED AERIAL ASSEMBLY

DRAWING No.

DETAIL:

DRAWING No.
I.O.S./ 5597

DETAIL
129

SIZE 3

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Telex 858833 OCEANS G

