

FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS

as required by the provisions of the ASME Code rules, Section VIII, Division 1

Item No.

E-6400-722

1. Manufactured and certified by Southern Heat Exchanger Corp., 6100 Old Montgomery Hwy.,
(name and address of manufacturer) Tuscaloosa, AL 35405
2. Manufactured for CAPE INDUSTRIES WILMINGTON, NC
(name and address of purchaser)
3. Location of installation LINE 2.
(name and address)
4. Type: Heat Exch. 93-226 — SB-1356-3 7377 1993
(horiz. or vert. tank) (mfr's. serial no.) (CNR) (drawing no.) (Nat'l. Bd. no.) (year built)
5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction and workmanship conform to ASME Code, Section VIII, Division 1: 1992
(year)
- A92 — —
(addenda (Date)) (Code Case no.) (special service per UG-120(d))

Items 6-11 inclusive to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

6. Shell: SA-516-70 500" .0675" 4'-11" 11'-11.875"
(mat'l. spec. no., grade) (nom. thickness (in.)) (corr. allow. (in.)) (dia. ID (ft. & in.)) (length (overall) (ft. & in.))
7. Seams: SNGL. BUTT SPOT 85% — — SNGL. BUTT — 2
(long. (dbl., encl.)) (RT (spot or full)) (eff. (%)) (HT temp. (°F)) (time) (girth (dbl., encl.)) (RT (spot, partial, or full)) (no. of courses)
8. Heads: (a) SA-516-70 (b) —
(mat'l. spec. no., grade) (mat'l. spec. no., grade)

	Location (top, bottom, ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (convex or concave)
(a)	<u>CENTER</u>	<u>500"</u>	<u>.0675"</u>	<u>(2) 70" O.D. FLANGED & FLUED HEADS</u>						<u>FLAT</u>
(b)										

If removable, bolts used (describe other fastenings): LINE 7.

(mat'l. spec. no., gr. size, no.)

9. Type of jacket: — Proof test: —
10. Jacket closure: — If bar, give dimensions: — If bolted, describe or sketch.
(describe as ogee & weld, bar, etc.)
11. MAWP: 150 at max. temp. 350 Min design metal temp.: 40 at 150 Hydro. ~~test pressure~~ test pressure 106
(psi) (°F) (°F) (psi) (psi)

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA-240-S31803 64.625" 2.125" 0 WELDED
(stationary mat'l. spec. no., gr.) (dia. (in.) (subject to pressure)) (nom. thickness (in.)) (corr. allow. (in.)) (Attachment (welded, bolted))
13. Tubes: SA-789-S31803 1" 14 1920 STRAIGHT
(mat'l. spec. no., gr.) (OD (in.)) (nom. thickness (in. or gauge)) (no.) (type (straight or U))

Items 14-17 inclusive to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell: SA-240-304 .375" 0 4'-11.250" 0'-5"
(mat'l. spec. no., gr.) (nom. thickness (in.)) (corr. allow. (in.)) (dia. ID (ft. & in.)) (length (overall) (ft. & in.))
15. Seams: SNGL. BUTT SPOT 85% — — SNGL. BUTT — 2
(long. (dbl., encl.)) (RT (spot or full)) (eff. (%)) (HT temp. (°F)) (time) (girth (dbl., encl.)) (RT (spot, partial, or full)) (no. of courses)
16. Heads: (a) SA-240-304 (b) SA-240-304
(mat'l. spec. no., grade) (mat'l. spec. no., grade)

	Location (top, bottom, ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (convex or concave)
(a)	<u>TOP</u>	<u>.375</u>	<u>0</u>	<u>60" O.D. X 54" O.D. CONE. RSP. 2B"</u>						<u>CONCAVE</u>
(b)	<u>BOTTOM</u>	<u>.375</u>	<u>0</u>			<u>2:1</u>				<u>4</u>

If removable, bolts used (describe other fastenings): SA-193-B7 (6A) EB. 3/4"-10.

(mat'l. spec. no., gr. size, no.)

17. MAWP: 75/PS at max. temp. 350 Min design metal temp.: 40 at 75/PS Hydro. ~~test pressure~~ test pressure 116
(psi) (°F) (°F) (psi) (psi)

FORM U-1 (back)

18. Nozzles, inspection and safety valve openings:

Purpose (inlet, outlet, drain, etc.)	Number	Dia or Size	Type	Mat'l	Nom. Thickness	Reinforcement Material	How Attached	Location
IN-OUT	1-1	12" - 150#	RFS	SA-106B	.688"	INHERENT	WELDED	SHELL
SPARE	2	6" - "	"	"	.432"	"	"	"
BLOW DOWN	1	1" - "	"	"	.250"	"	"	"
VENT	1	1" - 3000#	THD. CPLG.	SA-105	-	"	"	"
TEST VENT - DRAIN	1-1	3/4" - "	"	"	-	"	"	"
IN	1	5/4" - *	RING	SA-326-304	.375"	"	"	BOILER
OUT	1	3/4" - *	"	"	.375"	"	"	"
VENT - DRAIN	2-2	3/4" - 3000#	THD. CPLG.	SA-182F204	-	"	"	"

* S.H.E. DESIGN

19. Supports: Skin No Lugs 4 Legs 0 Other 0 Attached SHELL, WELDED

20. Remarks: Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: _____

"UG-46(a)" "UCS-46(a)" "UHA-51(a)"

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

"U" Certificate of Authorization no. 7037 expires Feb. 28, 19 94

Date 9-16-93 Name Southern Heat Exchanger Corporation (manufacturer)

Signed Daniel H. Poland (representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Southern Heat Exchanger Corporation at Tuscaloosa, AL

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the state of prov-
ince of NY and employed by Commercial Union Insurance Company

of Boston, MA have inspected the pressure vessel described in this Manufacturers' Data Report on 9-16, 19 93, and state that, to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1.

By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturers' Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 9-16-93 Signed B. M. Brooks Commissions NB 5446A NY 2182 (Natl. Bd. (incl. endorsements) state, prov. and int.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the field assembly construction of all parts of this vessel conforms with the requirements of Section VIII, Division 1 of the ASME BOILER AND PRESSURE VESSEL CODE.

"U" Certificate of Authorization no. _____ expires _____ 19 _____

Date _____ Name _____ Signed _____ (representative)

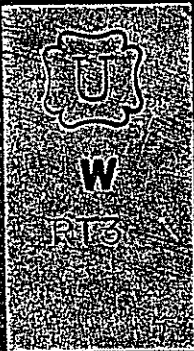
CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the state or prov-
ince of _____ and employed by _____ of _____ have compared the statements in this Manufacturers' Data

Report with the described pressure vessel and state that parts referred to as data items _____ not included in the certificate of shop inspection, have been inspected by me and that to the best of my knowledge and belief, the manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of _____ psi.

By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturers' Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ Signed _____ Commissions _____ (Natl. Bd. (incl. endorsements) state, prov. and int.)



NATIONAL BOARD NO. 7377

CERTIFIED BY

SOUTHERN HEAT EXCHANGER CORP.

TUSCALOOSA, ALABAMA

SHELL SIDE

MAWP 150 PSI AT 350 °F.

MDMT 40 °F. AT 150 PSI

TUBE SIDE

MAWP 75/4EV 350 °F.

MDMT 40 °F. AT 75/4EV PSI

SHECO SER. NO. 93-226 YEAR 1993

CUST. ORDER P28052

CUST. ITEM E-6400-7R2



CERTIFIED BY

SOUTHERN HEAT
EXCHANGER CORP.

TUSCALOOSA, ALABAMA

SHELL SIDE

MAWP 150 PSI AT 350 °F.

MDMT 40 °F AT 150 PSI

TUBE SIDE

MAWP 75/F.V. PSI AT 350 °F.

MDMT 40 °F AT 75/F.V PSI

SHECO SER. NO. 93-226 YEAR 1993

CUST. ORDER P28052

CUST. ITEM	E-6400-7R2
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CAUTION

THE PRESSURE AND TEMPERATURES SHOWN ON THE S.H.E. NAMEPLATE RELATE ONLY TO THE PRESSURE RETENTION CAPABILITY OF THIS HEAT EXCHANGER. COMPONENTS OF THIS HEAT EXCHANGER HAVE BEEN DESIGNED FOR SPECIFIC OPERATING CONDITIONS. A CHANGE IN SERVICE OR DEVIATION FROM THE SPECIFIED OPERATING CONDITIONS REQUIRES THAT A MECHANICAL DESIGN CHECK BE MADE IN ORDER TO AVOID POSSIBLE DAMAGE TO THE HEAT EXCHANGER.

NOTES

1. EST. WT. EMPTY: 38700#	FULL: 50400#	BDL: --
2. ALL BOLT HOLES STRADDLE NORMAL CENTERLINES.		
3. PLYWOOD COVERS ON ALL OPEN NOZZLES. RUST VETO HEAVY ON ALL C.ST'L FLANGE FACES.		
4. 125 MAIN GASKET SURFACES.		
5. PAINT: SANDBLAST O.S. PER SP-10. PRIME (1) COAT INTERNATIONAL. TARSET SUPER #1332 TO 8.0-10.0 MILS D.F.T. FINISH (1) COAT INTERNATIONAL. TARSET SUPER #1332 TO 8.0-10.0 MILS D.F.T.		
6. ALL LOOSE PARTS SHALL BE BOXED AND SHIPPED PROPERLY IDENTIFIED WITH EACH PART BY TAG OR MARKING, ITS ASSEMBLY LOCATION, P.O. NO., ASSEMBLY SERIAL NO. (IF APPLICABLE), AND SHOP ORDER NUMBER.		
7. 192B TUBES WERE REQUESTED ON CAPE INDUSTRIES SPECIFICATION SHEET, BUT ONLY 192D TUBES WOULD FIT IN EXISTING HEAT EXCHANGER.		

ANSI NOZZLE SCHEDULE

	SIZE	RATE	FACE	NOZZLE NECK	SERVICE
				TUBE SIDE	STOCK
A	54"	-	2E	3/8" THK. R	INLET
B	36"	-	2E	3/8" THK. R	OUTLET
L/M	3/4"	3000#	THD.	FULL CPLG. PLUGGED	VENT
N/P	3/4"	3000#	THD.	FULL CPLG. PLUGGED	DRAIN
				SHELL SIDE	STOCK
C	12"	150#	RFSO	SCH. 80	INLET
D	12"	150#	RFSO	SCH. 80	OUTLET
★ E	1"	150#	RFSO	SCH. 160	BLOWDOWN
★ F/H	6"	150#	RFSO	SCH. 80	SPARE
K	1"	3000#	THD.	VOGT. CPLT. PLUGGED	VENT
T1/2	3/4"	3000#	THD.	VOGT. CPLT. PLUGGED	HYDROTEST VENT/DRAIN
▲ S1/5	1/2"	-	N.P.T.	-	TUBESHEET VENT/DRAIN

NON-PRESSURE PARTS

SUPPORTS / PADS	SA-36
BAFFLES / SUPPORTS	SA-240 304
TIE RODS / SPACERS	304 S.S.T'L
NAMEPLATE BRACKET	304 S.S.T'L

★ FURNISH WITH BLIND FLG., STUDS, NUTS, AND 0.175" THK. 304 S.ST'L SPIRAL WOUND NON-ASBESTOS FILLED GASKET WITH 1/8" THK. C.ST'L OUTER GAGE RING.
■ FURNISH WITH 304 S.ST'L PLUG.

WPS P1-P1	W-42(SMAW) W-72(FCAW) W-89(SAW)
WPS P1-P8	W-2(SMAW) W-112(FCAW) W-100(SAW)
WPS P8-P8	W-3(SMAW) W-81(FCAW) W-90(SAW)
WPS P1-P10H	W-173(SMAW) W-LATER(FCAW)
WPS P10H-P10H	W-175(GTAW)

ASME CODE REQUIREMENTS

		SHELL SIDE	TUBE SIDE
DESIGN PRESSURE	PSIG	150	75/F.V.
DESIGN TEMPERATURE (MAX/MIN)	°F	350/40	350/40
HYDRO. TEST PRESSURE	PSIG	225	115
CORROSION ALLOWANCE		1/16"	NONE
POSTWELD HEAT TREATMENT		NONE	NONE
RADIOGRAPHIC EXAMINATION		SPOT	SPOT
METAL TEMP. (TEMA 7th ED.)	°F	281	294

ASME CODE STAMP / NAT'L BD. REG IS REQUIRED.

CUSTOMER INSPECTION IS REQUIRED

SPECIFICATIONS: 1992 ASME CODE SECT. VIII DIV. 1 ADDENDA-A92

SPECIAL SERVICE: NONE CODE CASE: NONE PARTIAL DATA REPORTS: NONE

TEMA (B) UCS-68(a) UHA-51(a)

TUBES: SA-789 S31803 (SMLS) (ALLOY 2205) WALL: AVG

NO. 1920	O.D. 1"	BWG. 14	LENGTH 12'-0"
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TUBESHEETS: SA-240 S31803 (ALLOY 2205)

PART	SHELL SIDE	TUBE SIDE
VESSEL	SA-516 GR. 70	SA-240 304
COVERS		
FORMED HEADS	SA-516 GR. 70	SA-240 304
BODY FLANGES		SA-105
NOZZLE FLANGES	SA-105	SA-105/SA-182 F 304
NOZZLE PIPE	SA-106 GR. B	SA-240 304/SA-312 304
STUDS/NUTS	SA-193-B7/SA-194-2H	SA-193-B7/SA-194-2H
GASKETS		SEE SHEET 5 FOR DETAIL
INSULATION (BY OTHERS)	5"	5"

REVISIONS

Δ	07/22/93	CHANGED TUBESHEET VENTS SIZE AND TUBE TO TUBESHEET JOINT.	
Δ	07/12/93	GENERAL REVISIONS.	
CERTIFIED	ENG.	DA 7/28/93	

CUSTOMER CAPE INDUSTRIES

CUSTOMER P.O. NO. P28052

ITEM NO. E-6400-7R2

PROJ. NO. 27-0200

PLANT WILMINGTON, NC

TEMA SIZE AND TYPE

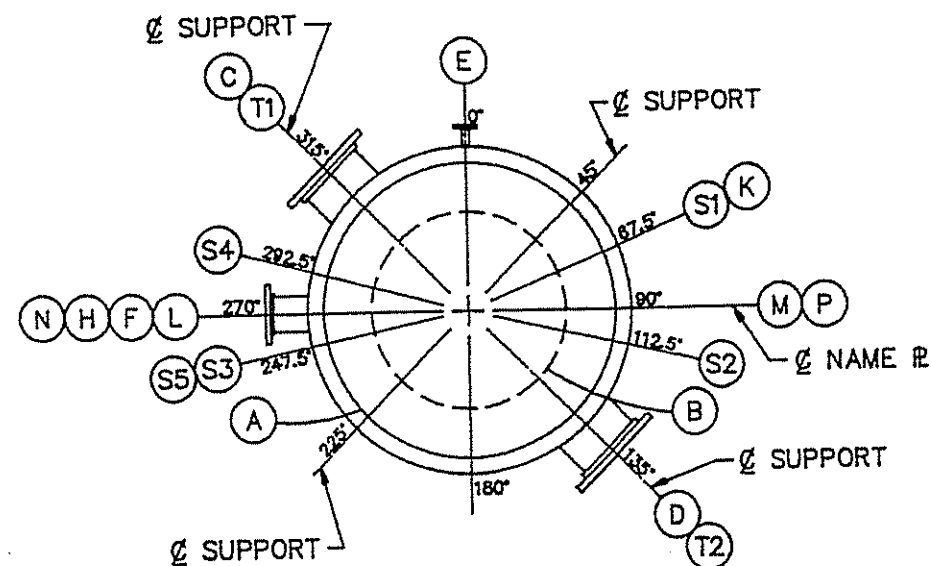
(1) 59-144 BEM ESTER STILL MAIN CONDENSER

SOUTHERN HEAT EXCHANGER CORP.

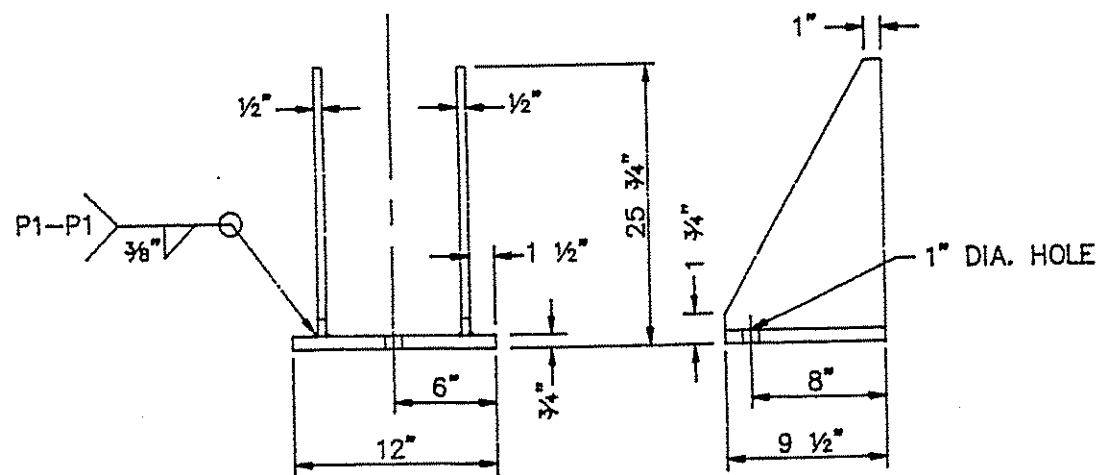
P.O. BOX 030008 TUSCALOOSA, AL. 35403

DATE 06/16/93	ORDER NO.	DWG. NO. SB-1356-2
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DATE: 08/10/00	SHEET NO:	DWG. NO. SE 15
BY: N.B.Y.	93-226	SHEET 1 OF 5

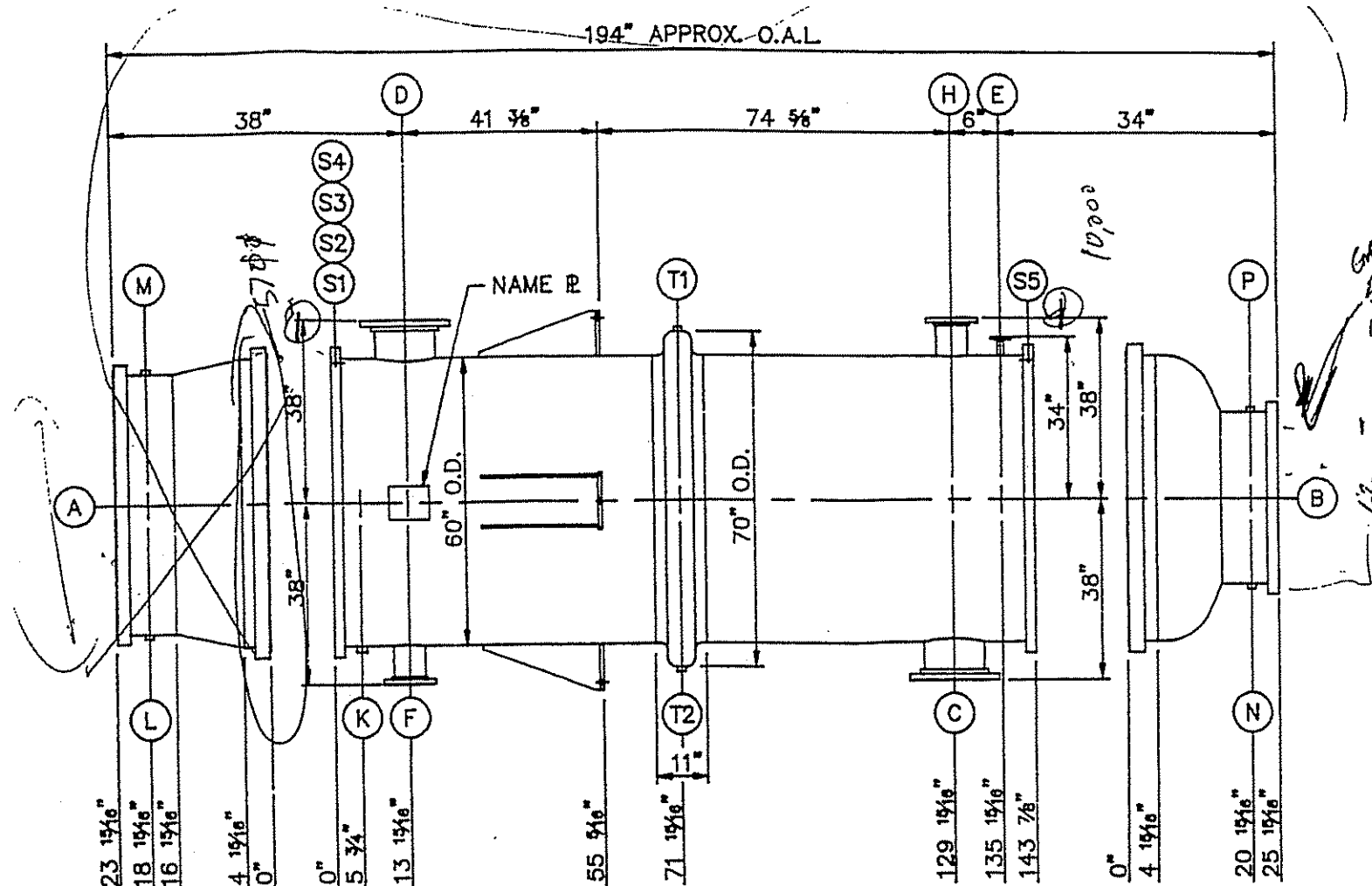


ORIENTATION

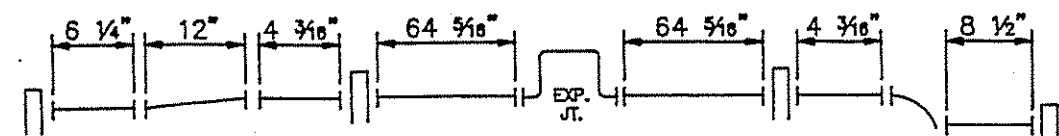


SUPPORT DETAIL

- C.ST'L
- 304 S.ST'L
- S31803 (ALLOY 2205)

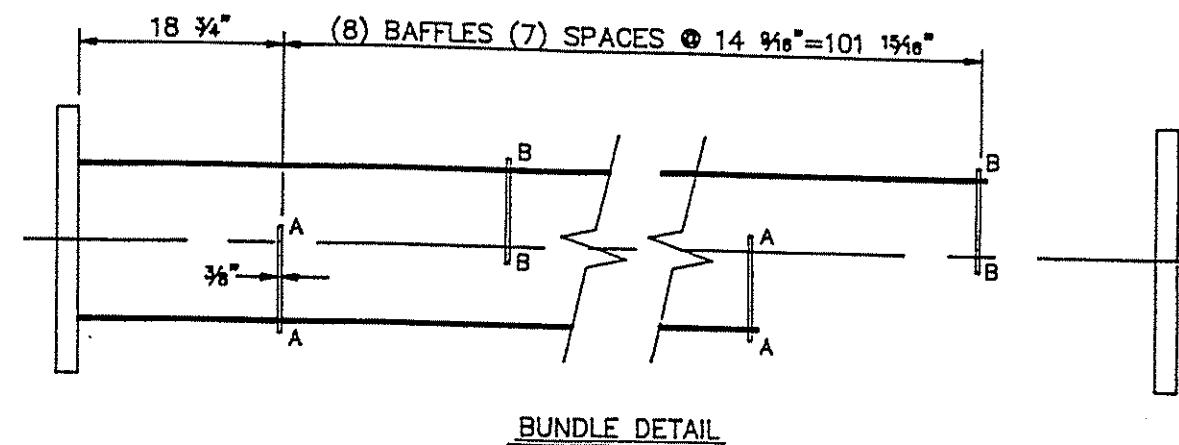
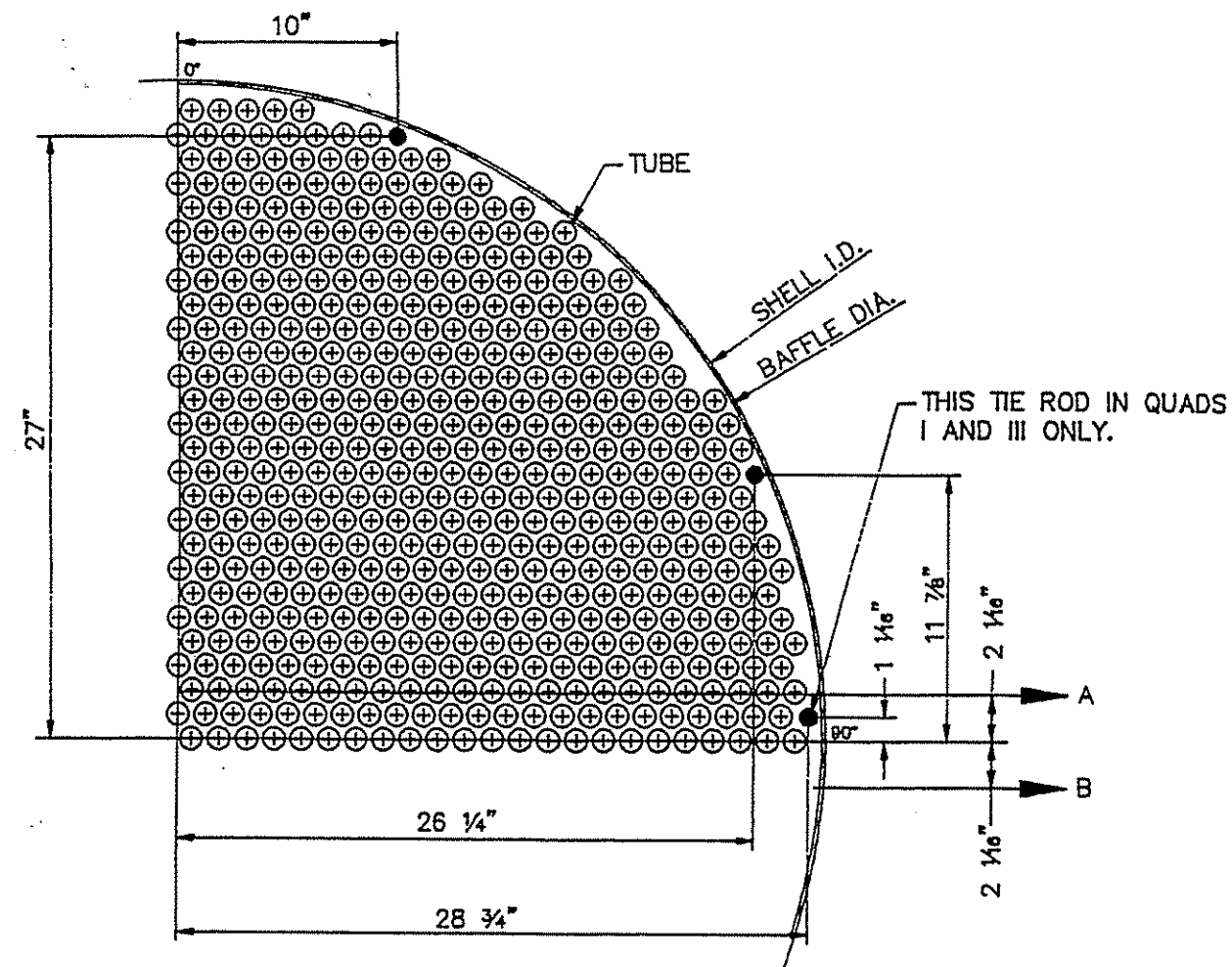


ELEVATION



THEORETICAL COURSE LENGTH

CERTIFIED	ENG. <i>W.A. 7/28/93</i>	
CUSTOMER CAPE INDUSTRIES		
CUSTOMER P.O. NO. P28052		
ITEM NO. E-6400-7R2		PROJ. NO. 27-0200
PLANT WILMINGTON, NC		
TEMA SIZE AND TYPE		
(1) 59-144 BEM ESTER STILL MAIN CONDENSER		
SOUTHERN HEAT EXCHANGER CORP.		
P.O. BOX 030008 TUSCALOOSA, AL. 35403		
DATE 06/16/93	ORDER NO.	DWG. NO. SB-1356-2
BY <i>N.B.Y.</i>	93-226	SHEET 2 OF 5



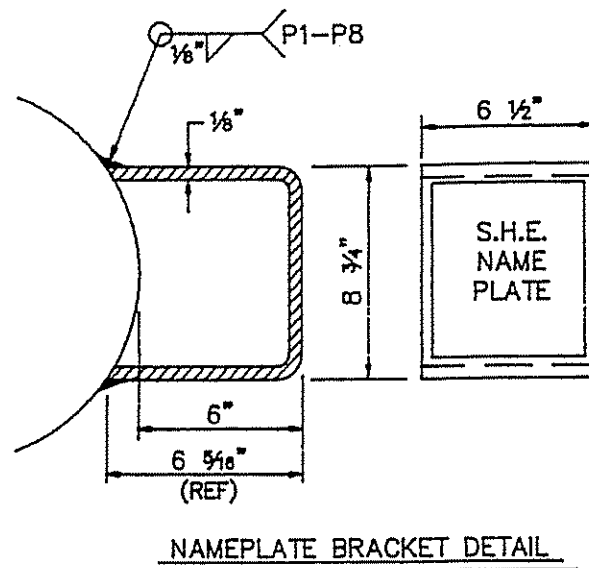
TUBE O.D.	1"
NO. OF TUBES (7)	1920
SIZE OF TUBE HOLE IN TUBESHEET	1.012"
SIZE OF TUBE HOLE IN BAFFLE	1 1/32"
PITCH	1 1/4" 30° TRI.
TIE ROD O.D.	1/2"
NO. OF TIE RODS	10
TIE ROD HOLE SIZE IN TUBESHEET	9/16" x 1/2" DP. (SEAL WELD)
TIE ROD HOLE SIZE IN BAFFLE	9/16"
SPACER O.D.	3/4"
DUMMY TUBE O.D.	—
NO. OF DUMMY TUBES	—
DUMMY TUBE HOLE SIZE IN BAFFLE	—
O.T.L.	58.4592"
BAFFLE DIA.	58.6875"
BAFFLE CUT ALTERNATES	(4) A-A, (4) B-B



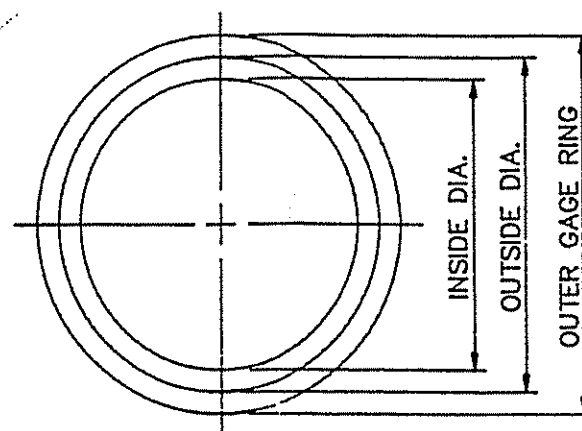
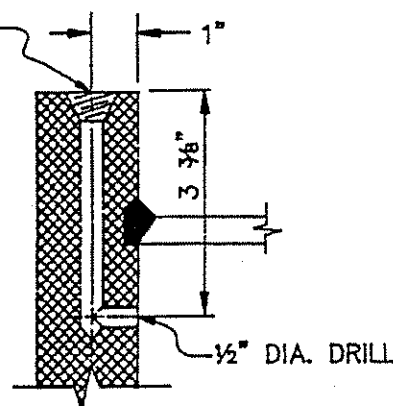
△ TUBE HOLE DETAIL

	C.ST'L
	304 S.ST'L
	S31803 (ALLOY 2205)

CERTIFIED	ENG. <u>7/28/93</u>	
CUSTOMER CAPE INDUSTRIES		
CUSTOMER P.O. NO. P28052		
ITEM NO. E-6400-7R2	PROJ. NO. 27-0200	
PLANT WILMINGTON, NC		
TEMA SIZE AND TYPE		
(1) 59-144 BEM ESTER STILL MAIN CONDENSER		
SOUTHERN HEAT EXCHANGER CORP.		
P.O. BOX 030008 TUSCALOOSA, AL. 35403		
DATE 06/16/93	ORDER NO.	DWG. NO. SB-1356-2
BY N.B.Y.	93-226	SHEET 4 OF 5



(1) HOLE 45/64" DIA.
DRILL, TAP 1/2" N.P.T.

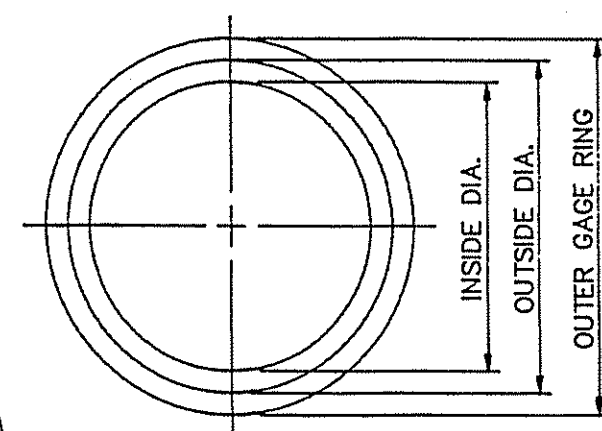


4009-53020-1

0.175" THK. 304 S.S.T'L SPIRAL WOUND NON-ASBESTOS FILLED GASKET WITH 1/8" THK. C.S.T'L OUTER GAGE RINGS. NOZZLE GASKETS TO HAVE THE FOLLOWING VALUES: m = 3.00 y = 5700

	62	62
NUMBER REQUIRED	2 EACH	2 EACH
OUTSIDE DIAMETER	55 1/8"	36 7/8"
INSIDE DIAMETER	54"	35 7/8"
OUTER GAGE RING DIA.	55 7/8"	37 7/8"

- C.S.T'L
- 304 S.S.T'L
- S31803 (ALLOY 2205)



4009-53006-1

0.175" THK. 304 S.S.T'L SPIRAL WOUND NON-ASBESTOS FILLED GASKET WITH 1/8" THK. C.S.T'L OUTER GAGE RINGS.

	BODY FLGS.
NUMBER REQUIRED	2 EACH
OUTSIDE DIAMETER	61 3/8"
INSIDE DIAMETER	60 3/8"
OUTER GAGE RING DIA.	62 3/8"

E-1213-7

CERTIFIED	ENG. 309 7/23/93
CUSTOMER CAPE INDUSTRIES	
CUSTOMER P.O. NO. P28052	
ITEM NO. E-6400-7R2	PROJ. NO. 27-0200
PLANT WILMINGTON, NC	
TEMA SIZE AND TYPE	
(1) 59-144 BEM ESTER STILL MAIN CONDENSER	
SOUTHERN HEAT EXCHANGER CORP.	
P.O. BOX 030008 TUSCALOOSA, AL. 35403	
DATE 06/16/93	ORDER NO.
BY N.B.Y.	93-226
DWG. NO. SB-1356-2	SHEET 5 OF 5

PC 21833
Item# E1213-7B

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM)
A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

A-Shop

1. Manufactured and certified by Plant Maintenance Service Corp, 3000 Fite Rd., Memphis, TN 38128
(Name and address of Manufacturer)
2. Manufactured for Glitsch Inc., PO Box 660053 Dallas, TX 75266-0053
(Name and address of Purchaser)
3. Location of installation Cape Industries Hwy 421 North, Wilmington, NC 28402
(Name and address)
4. Type: 36" OD Bonnet End U-895B None
(Description of vessel part (shell, two-piece head, tube bundle)) (Mfg's serial No.) (CRN)
None U-895D PMSC (DDN) 1994
(Natl. Bd. No.) (Drawing No.) (Drawing prepared by) (Year built)
5. ASME Code, Section VIII, Div. 1 1992 ED 1992 AD
Edition and Addenda (date) Code Case No. Special Service per UG-120(d)
6. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 1'-5"

Course(s)			Material		Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	36"	1'-5"	SA240T316L		.25	.125	1	Spot	85	1	Spot	85	None	NA

7. Heads: (a) SA240T316L (b)
(Mater. Spec. No., Grade or Type) H.T. - Time & Temp (Mater. Spec. No., Grade or Type) H.T. - Time & Temp

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	BTM	.315	.125	36	2.25					X	X	S	None	85
(b)														

8. removable, bolts used (describe other fastening) By Others
9. MAWP FV 75 psi at max. temp. 350 350 °F Min. design metal temp. -20 °F at FV&75 ps
(internal) (external) (internal) (external)

10. Charpy impact testing exempted per UHA-51(a) and UCS-66 a.c.d.
(Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press. 113 Proof test

1. Nozzles, inspection, and safety valve openings: 7/19/94

Purpose (inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
G. Liquid	1	4"	CL150	SA312	SA182	Sch	.125	None	e/.70	cw	
Outlet			SO	T316L	F316L	120					
N Vapor	1	3"	CL150	SA312	SA182	Sch	.125	None	e/.70	cw	
Outlet			SO	T316L	F316L	160					

2. Supports: Skirt NO Lugs 4 Legs None Others Attached Shell & Welded
(Yes or No) (No.) (No.) (Describe) (Where and How)

3. Remarks * Relief protection per UG-125 must be provided by customer.
* Charpy Impact Testing exempted per UHA-51(a) & UCS-66 a.c.d.
Top end body flange forging 40 1/8" OD X 3.45 min X 36 3/16" ID SA105N

CERTIFICATE OF SHOP/FIELD COMPLIANCE

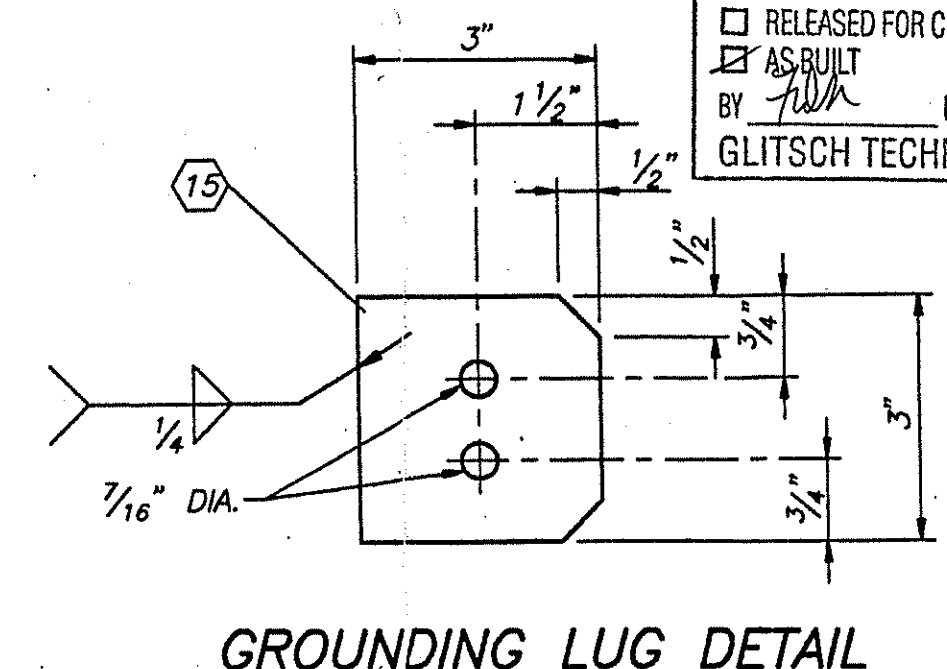
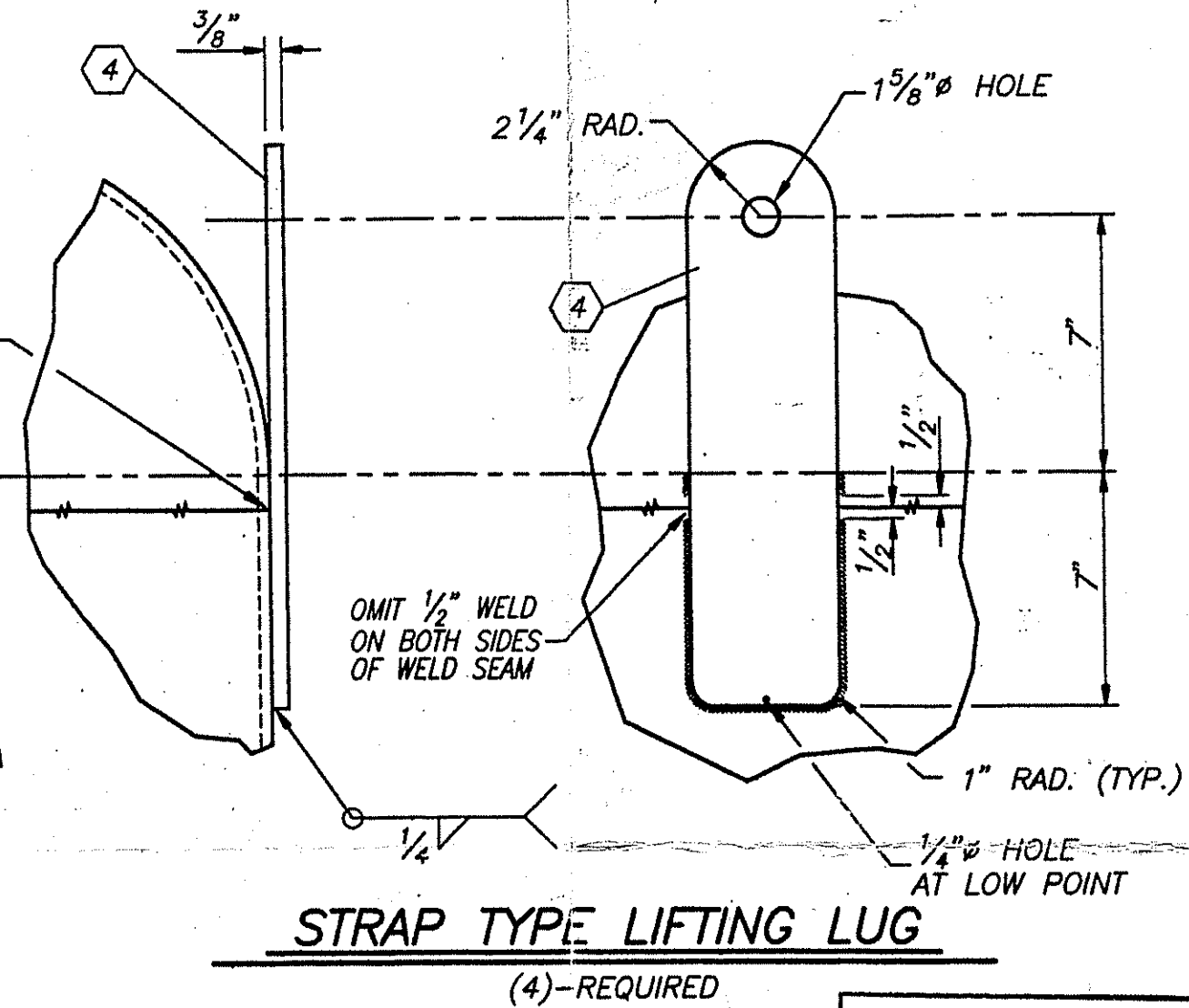
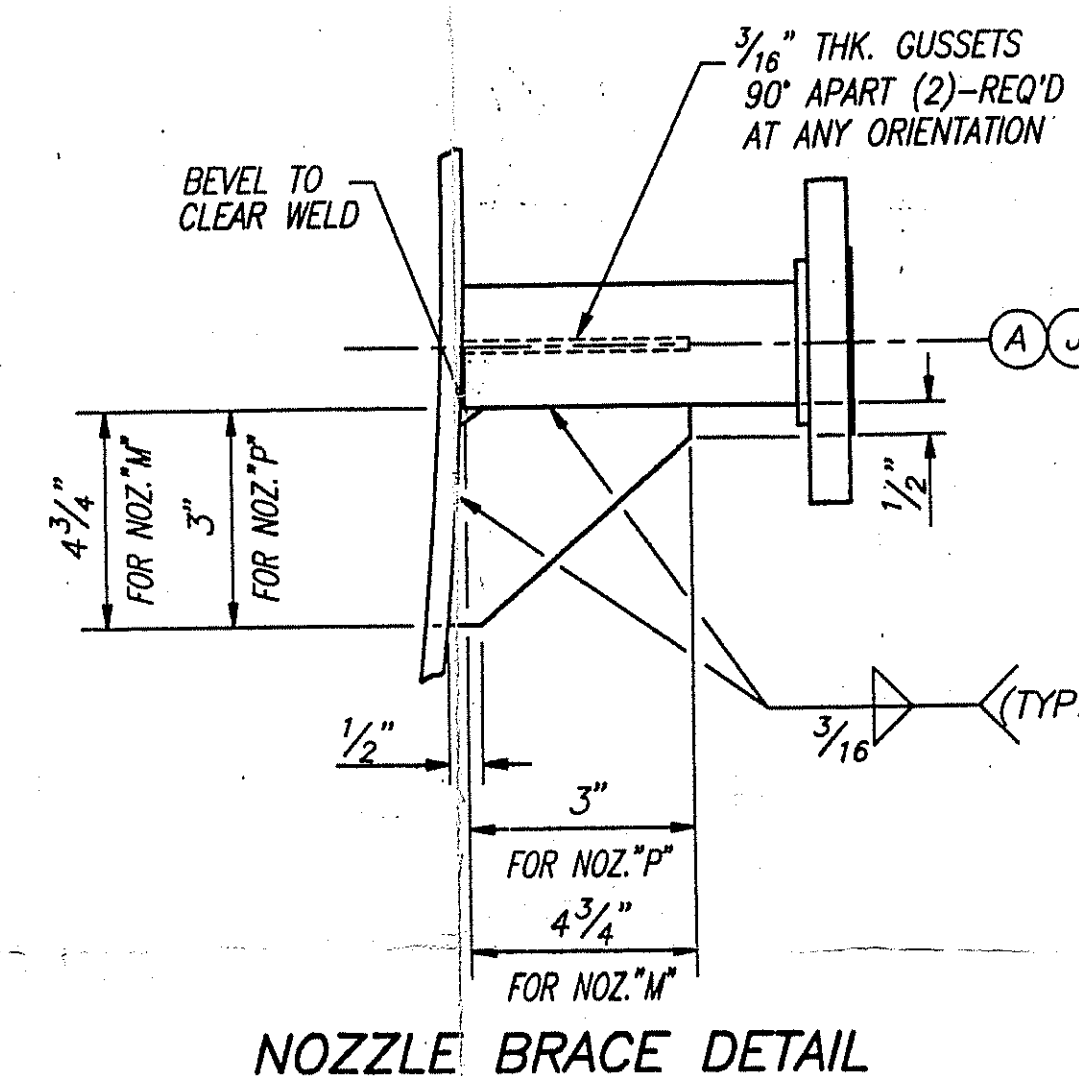
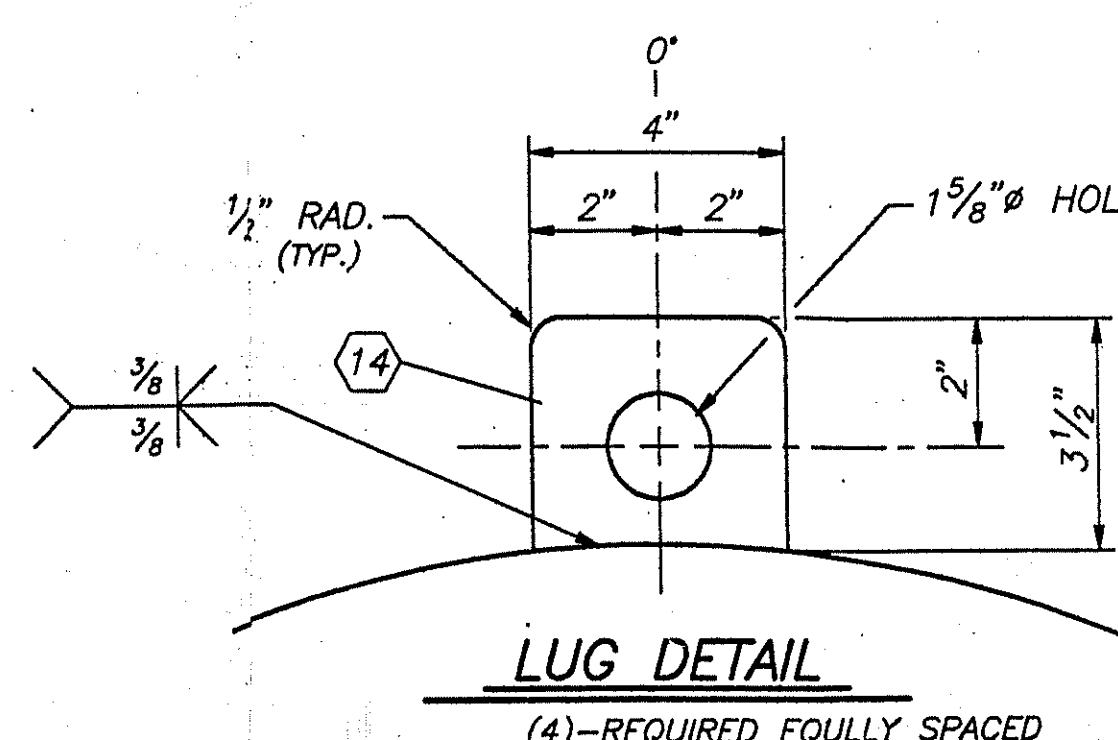
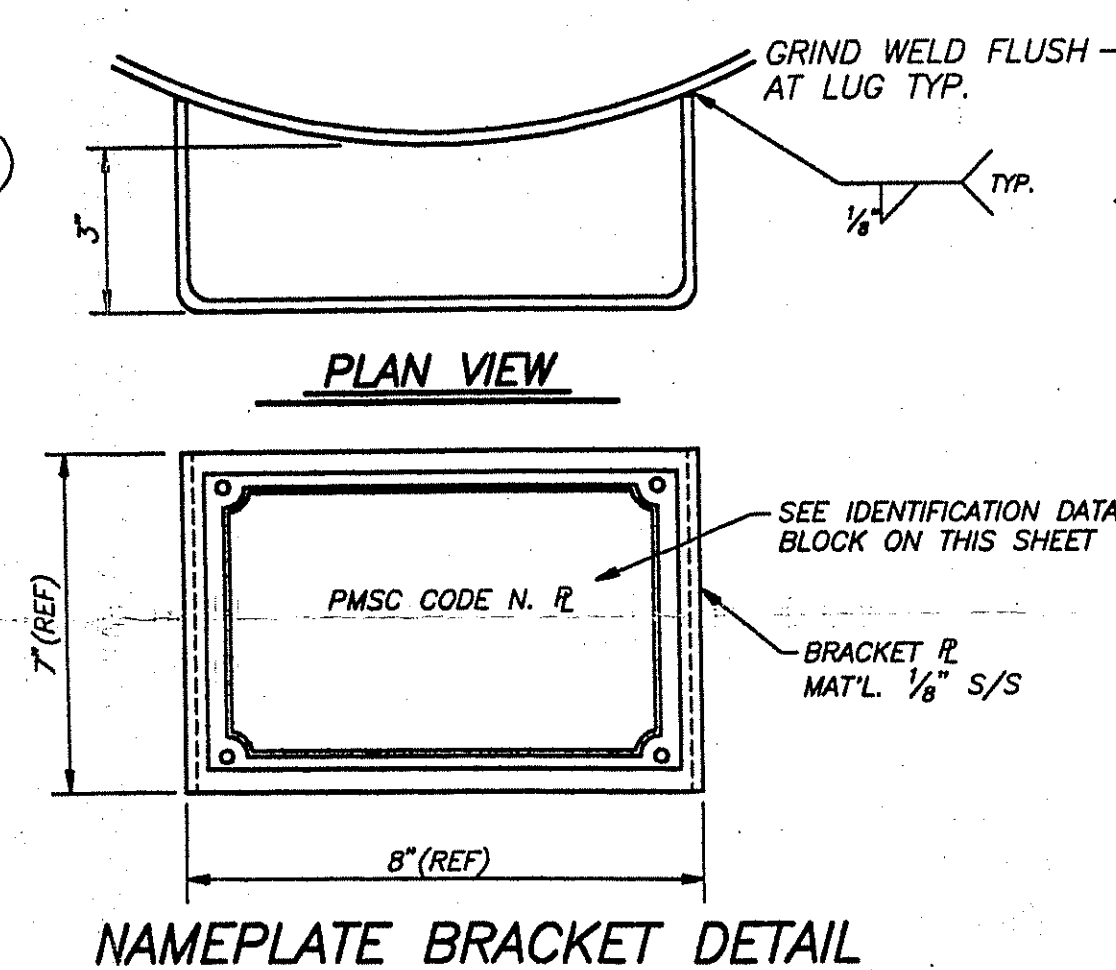
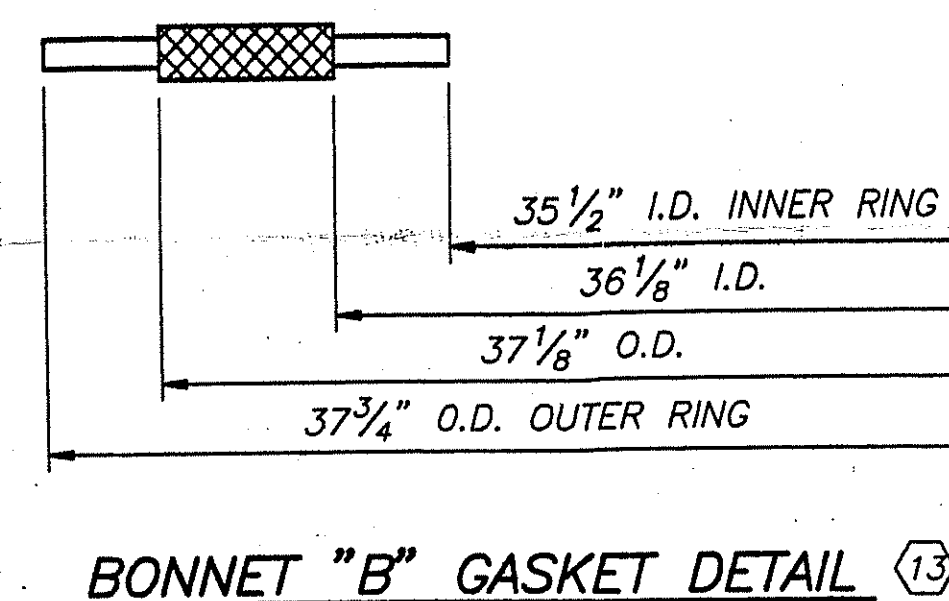
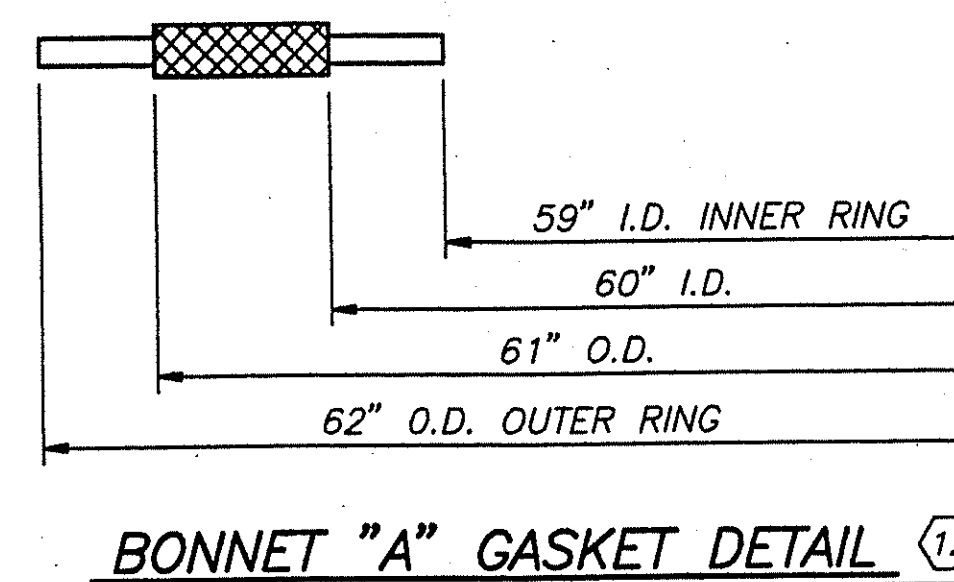
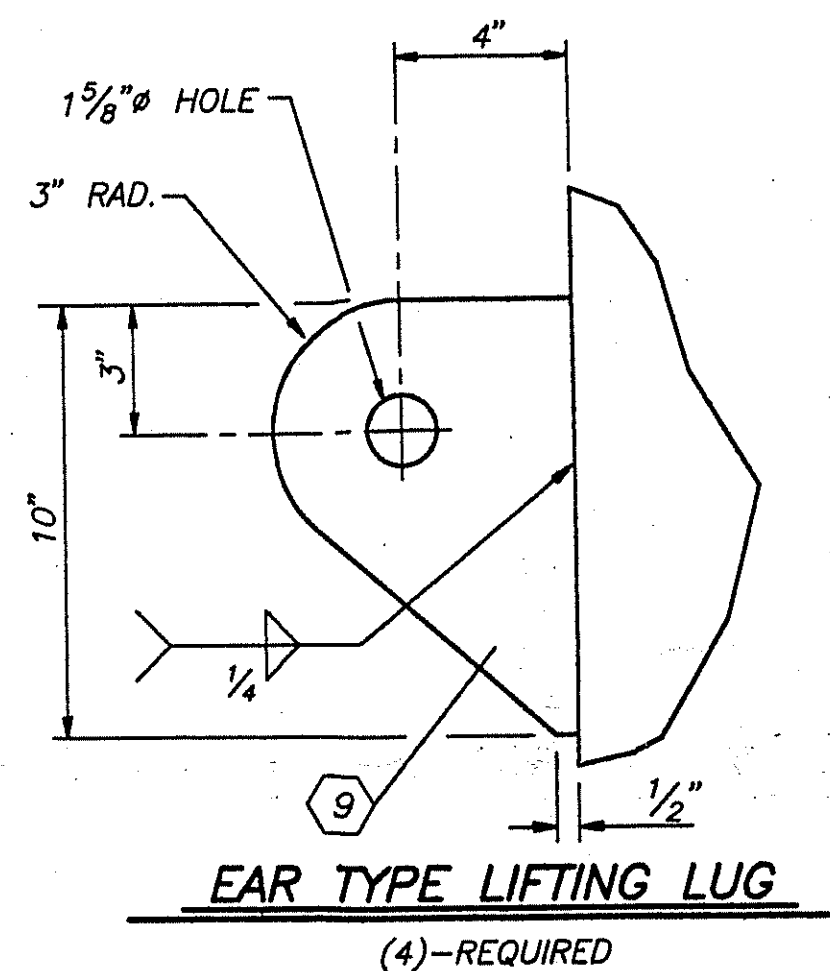
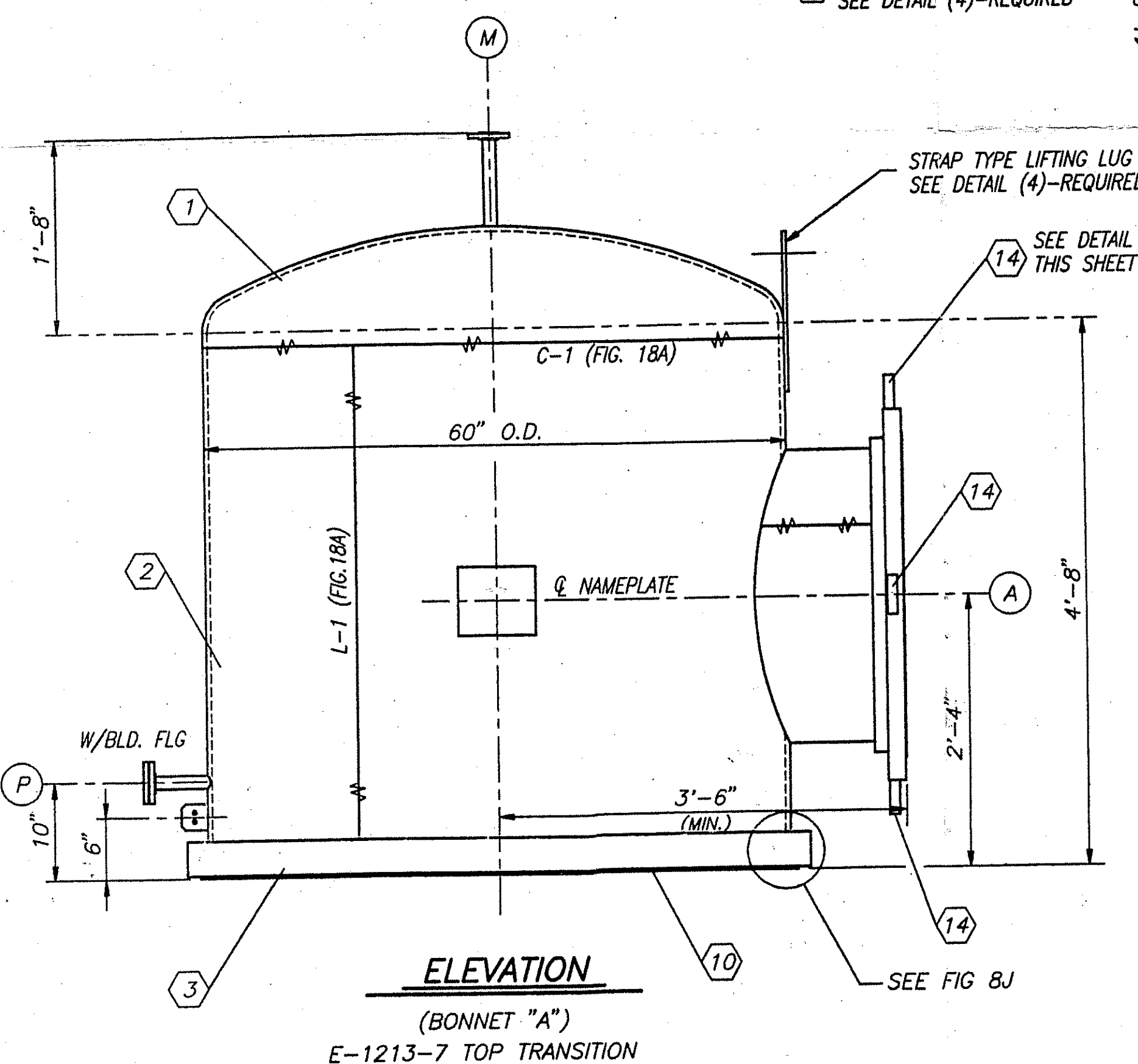
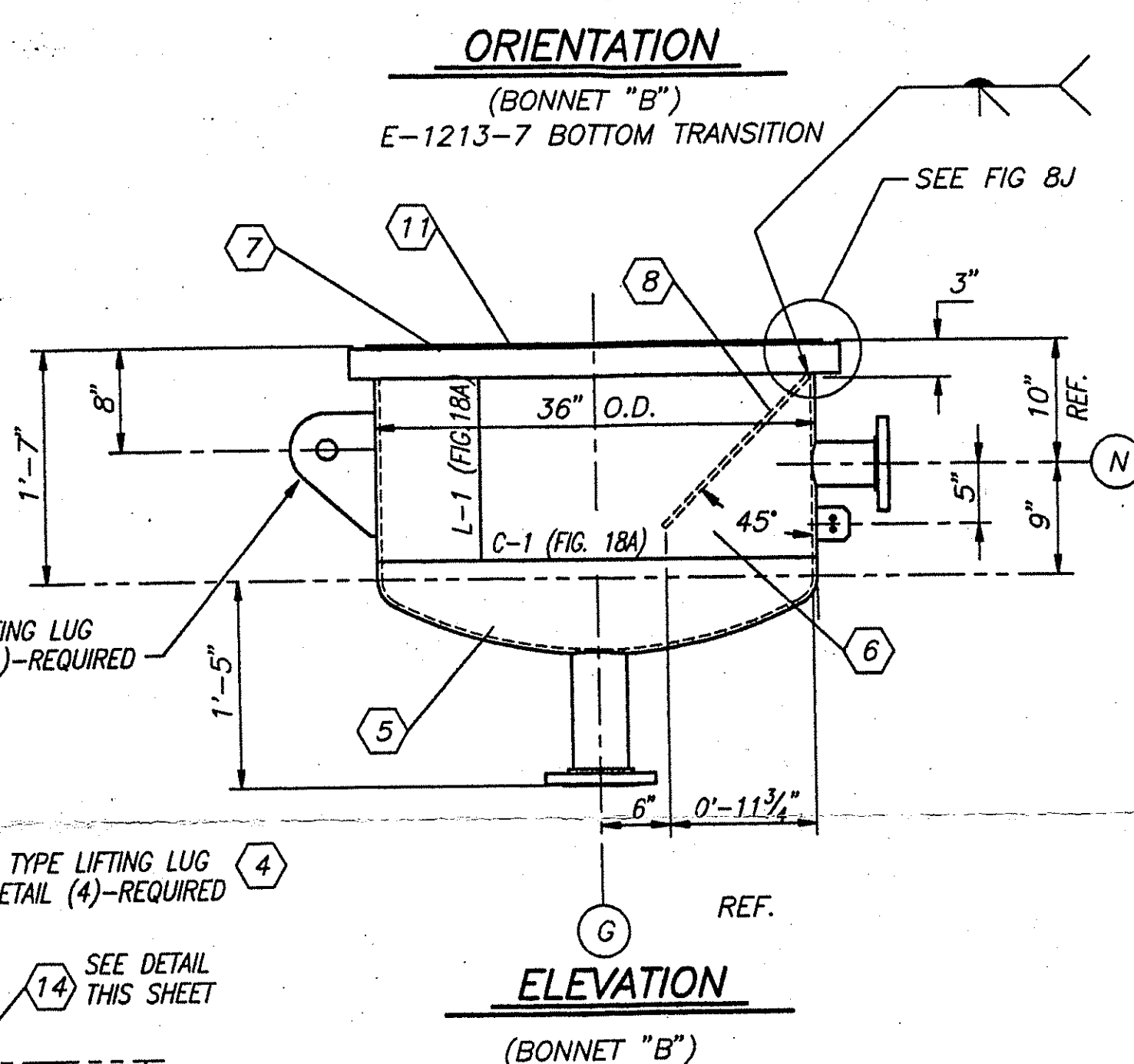
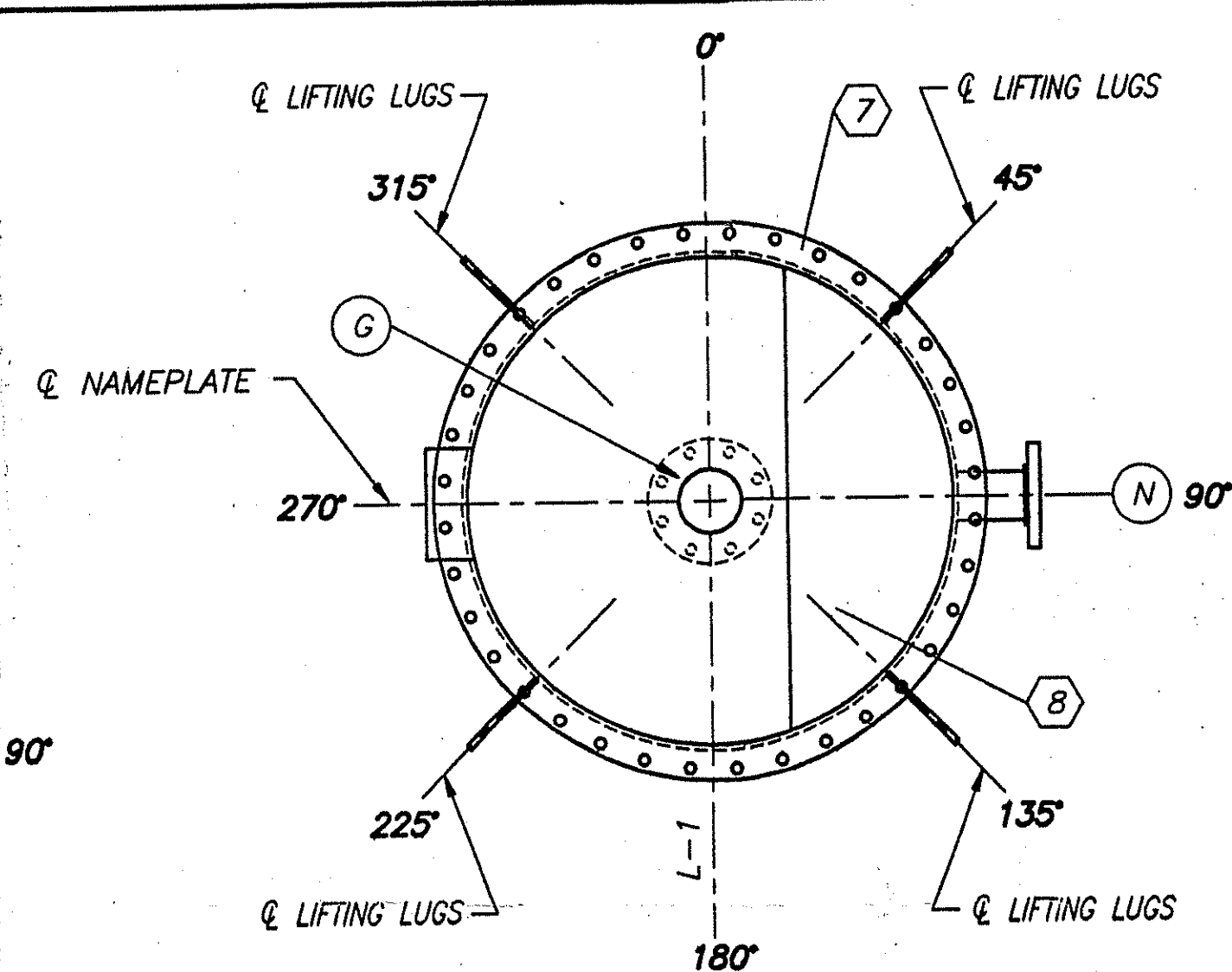
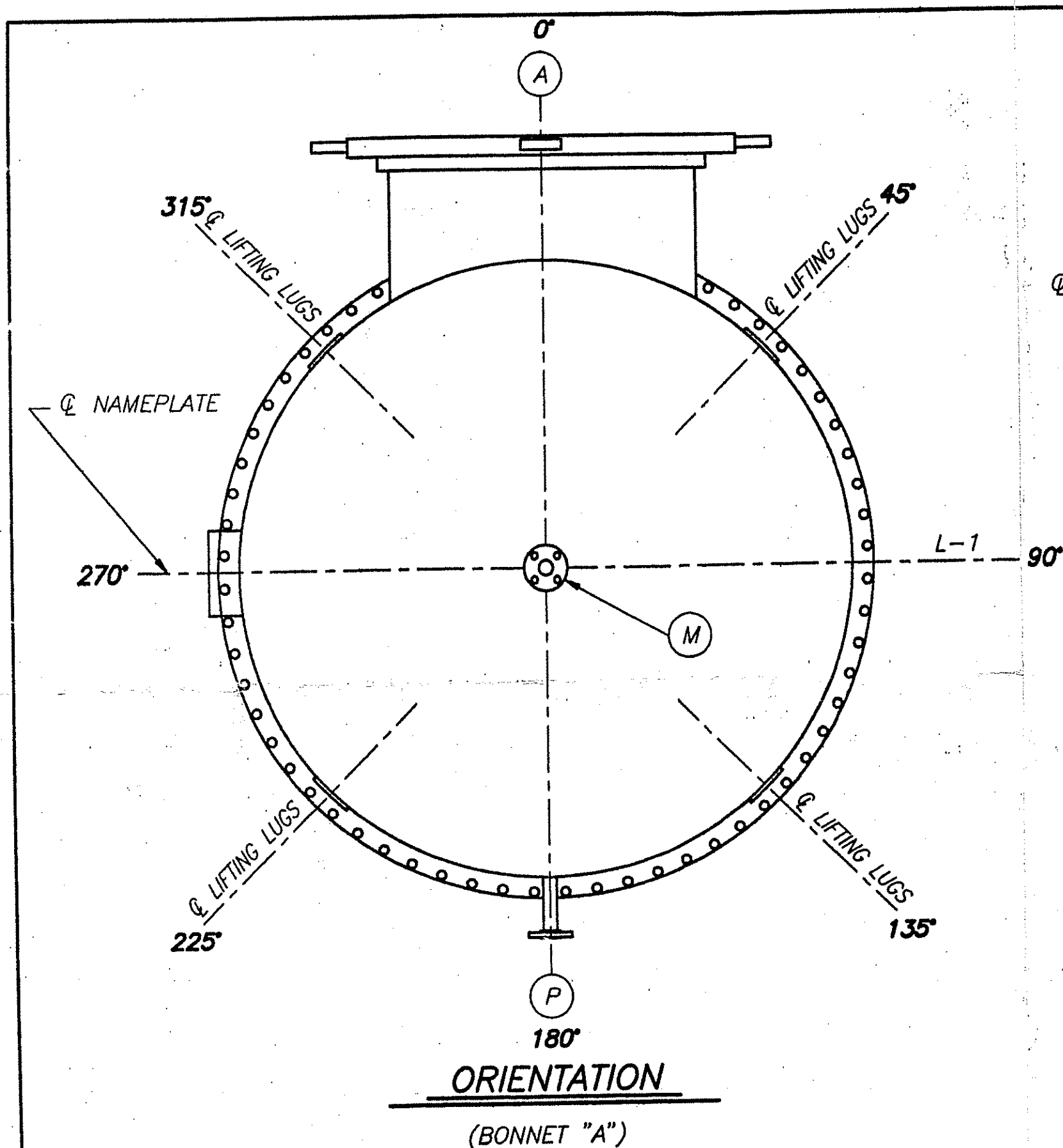
We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this pressure vessel part conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

U Certificate of Authorization No. 8812 Expires 2-28
Date 7/19/94 Name Plant Maintenance Service Corp. Signed Harry L. Thomas
(Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TN and employed by Commerical Union Insurance Company of Boston, MA have inspected the pressure vessel part described in this Manufacturer's Data Report on 7-19, 19 94, and state that, to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel part in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel part described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 7-19-94 Signed [Signature] Commissions TNE 2370
(Authorized Inspector) (Natl Board incl. endorsement, State, Province and No.)



REVIEWED
Eng P.B. Date 6-7-94
Q.C. _____ Date _____

WELD PROCEDURES
C/S TO C/S: CS-1, OR CSA-5
C/S TO S/S: SSCS-3 OR SSCS-6
S/S TO S/S: SS-1, SS-2, SS-4, OR SS-6

NOZZLE SCHEDULE

N	1	3"	150#	R.F.	S.O.	0"	6"	"T"	BA	3/16"	2A	VAPOR OUTLET
M	1	1"	150#	R.F.	S.O.	0"	6"	"T"	BA	1/4"	2A	VENT
P	1	1"	150#	R.F.	S.O.	0"	6"	"T"	BA	1/4"	2A	VENT W/BLD.
G	1	4"	150#	R.F.	S.O.	0"	SEE ELEV.	"T"	BA	3/8"	2A	LIQUID OUTLET
A	1	30"	150#	R.F.	S.O.	0"	SEE ELEV.	"T"	BC	1/4"	2A	INLET VAPOR
MK.	DUAN	SIZE	RAT'G	FACE	TYPE	I.S.	Q.S.	SIZE	FIG.	SIZE	FIG.	SERVICE

DESIGN DATA

DESIGN PER ASME SECTION VIII, DIV. 1, 1992 ADDENDA			
	SHELL SIDE	TUBE SIDE	COIL SIDE
DESIGN PRESSURE	75/ FV	---	---
DESIGN TEMP. MAX./MIN.	350/40	---	---
HYDRO TEST	113	---	---
RADIOGRAPH SEE NOTE 11	SPOT	---	---
CORR. ALLOW.	1/8"	---	---
STRESS RELIEVE	NONE	---	---
APPROX. WT. EMPTY	4,500 TOTAL	---	---
JOINT EFFICIENCY PER CODE TABLE	HEAD 85 % GIRTH 85 %	SHELL 85 % LONG 85 %	SHELL 85 % GIRTH 85 %
UW-12	---	---	---
SPECIFICATIONS	5CS-375	---	---

IDENTIFICATION DATA

NAT'L. BD. NO. _____ **CERTIFIED BY** _____

PLANT MEMPHIS, TN

TUBE SIDE _____ **PSI AT** _____ **°F** _____

M.A.W.P. SHELL SIDE 75/FV **PSI AT** 35-40 **°F** _____

TUBE SIDE _____ **°F AT** _____ **PSI** _____

M.D.M.T. SHELL SIDE -20 **°F AT** 75 **°F** _____

SERIAL NO. U-895 / B

YEAR BUILT 1994

ITEM NO. E-1213-7 A/B **P.O. NO.** 21833

NOTES

- ALL BOLT HOLES TO STRADDLE PRINCIPAL VESSEL CENTERLINES UNLESS OTHERWISE NOTED.
- VESSEL SHALL BE CLEANED INSIDE & OUTSIDE, FREE OF DIRT, GREASE, DEBRIS, LOOSE MILL SCALE, WELD SPATTER, ETC.
- WIRE BRUSH ALL WELDS & BREAK ALL SHARP EDGES.
- INSTALL MASONITE PROTECTORS ON ALL OPENINGS BEFORE SHIPPING.
- PROTECT ALL MACHINED SURFACES WITH A RUST PREVENTATIVE BEFORE SHIPPING.
- LIFTING LUGS ARE INSTALLED TO SET THIS UNIT INITIALLY WHEN EMPTY ONLY.
- INSPECTED BY: Q.C. ☒ A.I. ☒ CUSTOMER ☒.
- SURFACE PREP. & PAINTING REQUIREMENT:
A) CARBON STEEL SURFACES (PER HERCULES SPEC. 11CS-6). SURFACE PREPARATION: COMMERCIAL BLAST CLEANING PER SSPC-SP6.
PRIME COAT: CARBOZINC 11 HS, 3 MILS MIN. D.F.T.
5 MIL MAX D.F.T.
MID COAT: CARBOLINE 890, 4 MILS MIN. D.F.T.
7 MILS MAX D.F.T.
TOP COAT: CARBOLINE 134 HS, 2 MILS MIN. D.F.T.
3 MILS MAX. D.F.T.
NOTE: PRIMER ZINC CONTENT TO BE 85W% MIN.
- ALL EXTERNAL S/S SURFACES TO BE BRUSHBLAST.
- VESSEL SHALL BE SPOT-RADIOGRAPHED ON ALL BUTT WELDS, CATEGORY "C" & "D" WELD JOINTS. SHELL BE TESTED BY DYE-PENETRANT OR ULTRASONIC METHOD. IF COLD FORMED, THEY MUST BE INSPECTED AND DYE PENETRANT CHECKED. STAINLESS HEADS MUST BE FULLY SOLUTION ANNEALED, WATER QUENCHED, AND PICKLED AFTER FORMING.
- MTR'S REQUIRED FOR ALL PRESSURE PARTS, TRANSFER HEAT NUMBERS.
- SEE SPEC. #5CS-375, PARA. #5.5 FOR WELDING REQ'TS.
- TOLERANCES PER SPEC. #5CS-375, PARA. #5.3.
- VESSEL ITEM NO. SHALL BE PAINTED ON OUTSIDE SURFACE WITH 3" HIGH LETTERING.
- ALL FLANGE GASKET SURFACES SHALL BE 125 RMS FINISH.
- USE STD. NON-ASB. GAS'S FOR HYDRO-TEST. INSTALL SERVICE GASK'S PRIOR TO SHIPMENT. BOX & SHIP ONE SPARE SERVICE GASK. FOR EACH BLINDED NOZ. & MANW.
- SHIP TO THE FOLLOWING ADDRESS:
Mc ABEC CONSTRUCTION
5724 21st STREET
TUSCALOOSA, AL 35403
ATTN: H. PARKER
JOB NO. 6K-1512

RECEIVED
AUG 08 1994

CERTIFIED AUG 5 - 1994
PLANT MAINTENANCE SERVICE CORP.
FINAL

NO.	DATE	REVISION
6/10/94		DELETED NOTE #9 FOR WORKLINES & ADDED PART TO NAMEPLATE STAMP
6/7/94		DELETED NOTE #2 FOR REPAIRS
4/26/94		REVISED PER CUSTOMER APPROVAL DATED 5-24-94 & PMSC ENG RELEASED FOR FABRICATION
		FOR APPROVAL

PLANT MAINTENANCE SERVICE CORP.
3000 FITE ROAD MEMPHIS, TENN.

JOB: ONE (1) 60" O.D. x 4'-8" I. to FACE OF FLANGE "BONNET"
ONE (1) 36" O.D. x 1'-7" I. to FACE OF FLANGE "BONNET"

LOCATION: WILMINGTON, N.C.

OWNER/USER: CAPE INDUSTRIES

PURCH./ENG.: GLITSCH TECHNOLOGY CORP.

P.O. NO. 21833 **ITEM NO.** E-1213-7 A/B

SCALE NONE **DWG. BY** DDN **ORDER NO.** U-895

DATE 4/26/94 **CHK. BY** BS **U-895 A/B** **SHT.** 1

