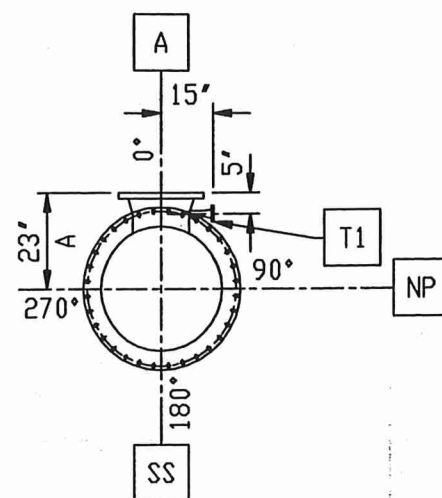


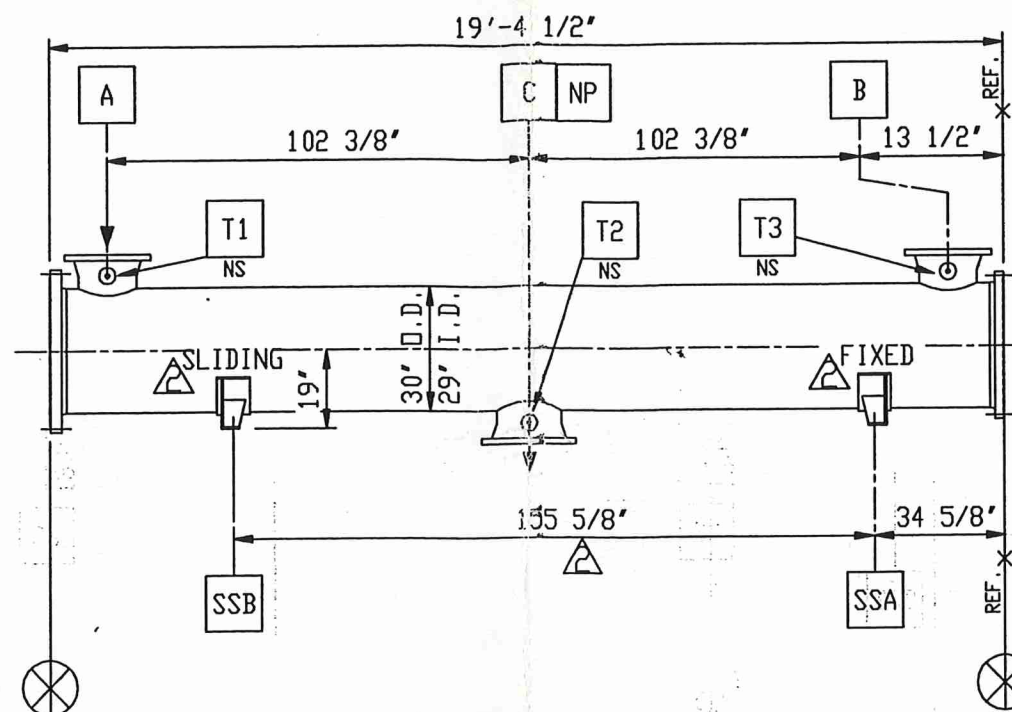
C-110

INSTALLED 9/99

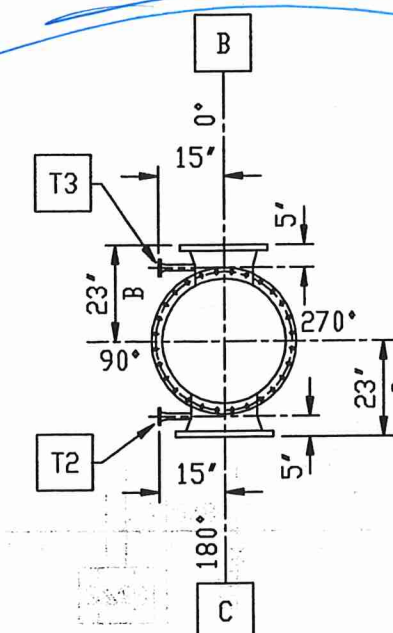
Reinstalled 10/2007



ORIENTATION
VIEWED FROM LEFT END



GENERAL ARRANGEMENT
NOT A TRUE ORIENTATION



ORIENTATION
VIEWED FROM RIGHT END

AS BUILT

DATE 6/17/99

A3 8535

CONNECTION SCHEDULE

MARK	SIZE	RATING	TYPE	SERVICE
A	14"	150	RFLWN	SHELLSIDE - INLET
B	14"	150	RFLWN	SHELLSIDE - INLET
C	16"	150	RFLWN	SHELLSIDE - OUTLET
T1	1"	150	RFLWN	CONNECTION
T2	1"	150	RFLWN	CONNECTION
T3	1"	150	RFLWN	CONNECTION

SURFACE PREP

- 1) NEAR WHITE BLAST CLEAN, CARBON STEEL
(SSPC-SP-10)

PAINT SPEC

- 1) PRIME WITH ONE (1) COAT 3 MILS DFT AMOCO #256.
 (DuPont GANACIN 347-Y-931, 88.0 % ZN DF)
 2) FINISH ONE (1) COAT 3 MILS DFT AMOCO #164.
 (DuPont DB 823-Y SERIES/GLOSS AND SG)

GENERAL NOTES

- 1) ALL BOLT HOLES TO STRADDLE NATURAL CENTERLINES.
 2) ALL NOZZLES TO HAVE PROTECTIVE COVERS FOR SHIPMENT.

MATERIALS:	SHELL SIDE	TUBE SIDE
TUBES	---	---
TUBESHEET	---	---
SHELL	SA-516-70	---
BODY FLANGE	SA-105	---
HEAD	---	---
NOZZLE NECK	---	---
NOZZLE FLANGE	SA-105	---
BOLTING	---	---
GASKETS	---	---

CERTIFIED

CORRECT FOR FABRICATION, BY *Bo Peng* DATE 6-2-99

DESIGN DATA

DESIGN PRESSURE - INTERNAL	75 PSI
DESIGN PRESSURE - EXTERNAL	---
DESIGN TEMPERATURE	225°F
HYDRO TEST PRESSURE	113 PSI
CORROSION ALLOWANCE	0.25"
RADIOGRAPH	SPOT
STRESS RELIEF	NONE
NO. OF PASSES	1
MIN. DESIGN METAL TEMP	20°F

SHELL SIDE

TUBE SIDE

TUBE SURFACE (EXTERNAL) 194 SQ. FT.

APPROX. WEIGHT EACH	EMPTY	FULL WATER	BUNDLE
	6637 LBS.	12108 LBS.	2281 LBS.

DESIGN & CONSTRUCTION IN ACCORDANCE WITH:
 ASME SECTION VIII, DIV. 1 STAMPED 1998 ED 'A'93 'U'
 T.E.M.A. CLASS None

NO.	DATE	DESCRIPTION	BY	CHK
6-2-99	REV.	PER CUST. FAX 6-2-99.	B.P.	B.P.
5-5-99	REV.	BY HTS	B.P.	B.P.

REVISIONS

CUSTOMER: AMOCO

ONE UNITS REQUIRED

TAG: H.T.S. NO.: 12492

ITEM NO:

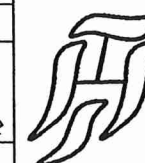
PD NO.: 9920614

DIMENSIONAL OUTLINE

SHELL

SIZE: 29 - 237

TYPE: E-SHELL



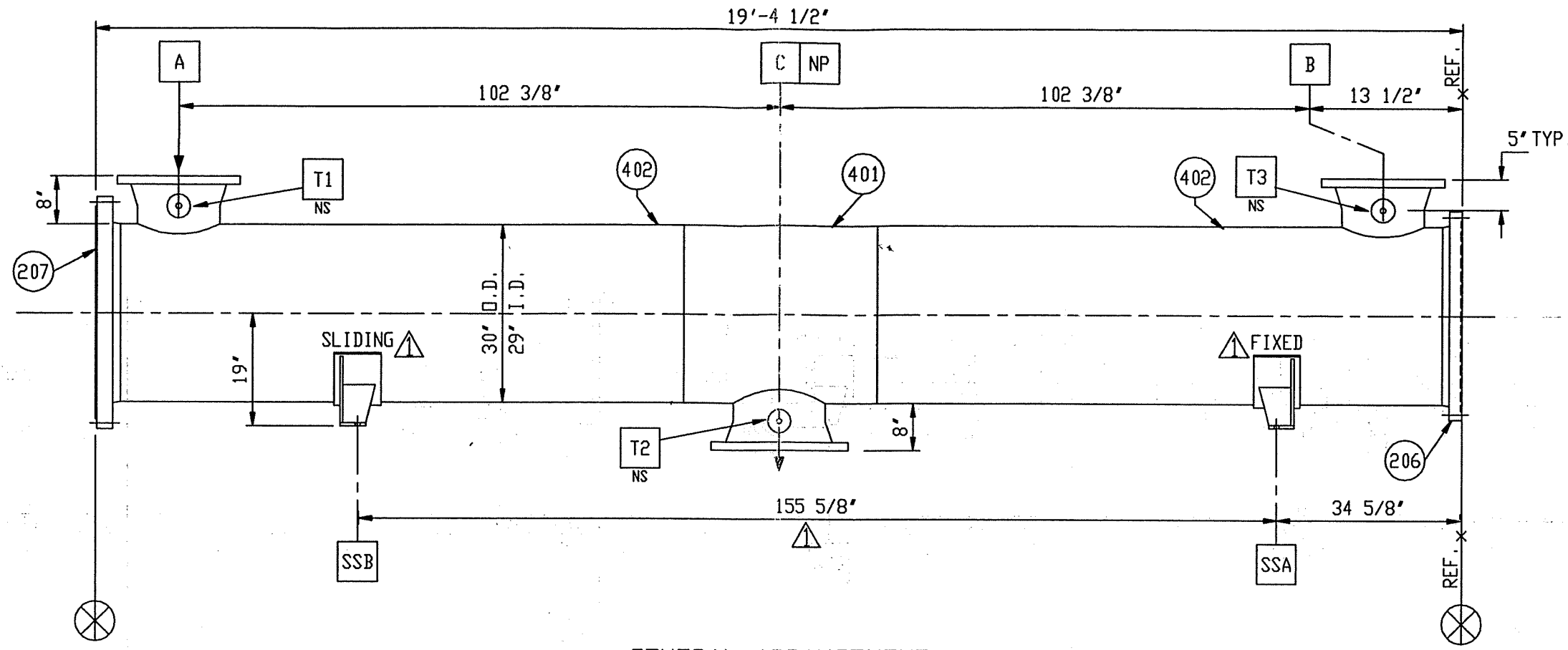
HEAT TRANSFER SYSTEMS, INC

DESIGNER & MANUFACTURER

ST. LOUIS, MO 63111-3655

C: 12492, HEX

DR. BY B.P.	HTS 12492	REV A
DATE 4-30-99	DWG. NO. B-012492-01	
CHK. BY B.P.		



GENERAL ARRANGEMENT
NOT A TRUE ORIENTATION

402, 401	1/2"	SHELL CYLINDER
PART	THK.	DESCRIPTION

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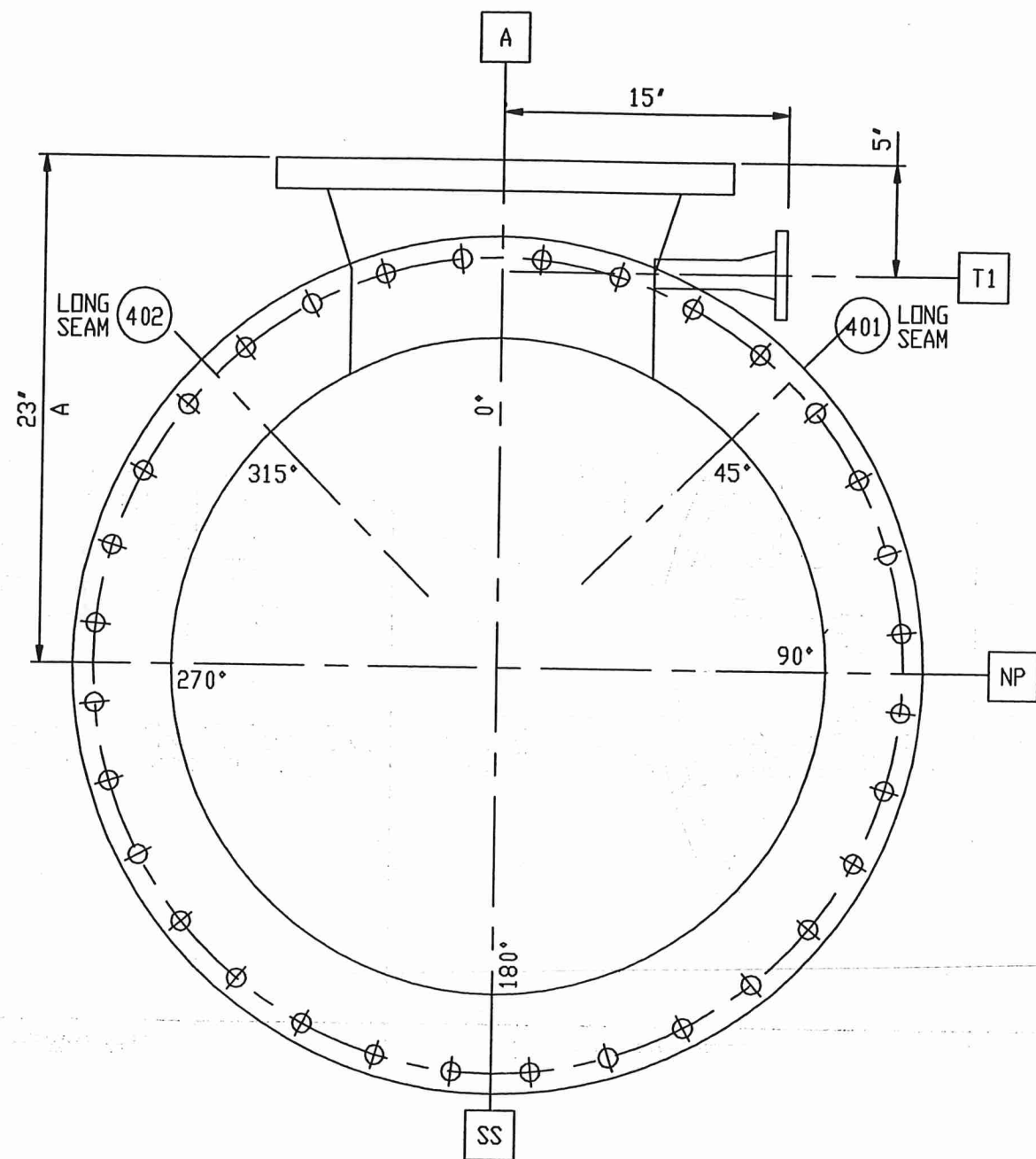
C:12492.HEX

SHELL & CHANNEL DETAILS

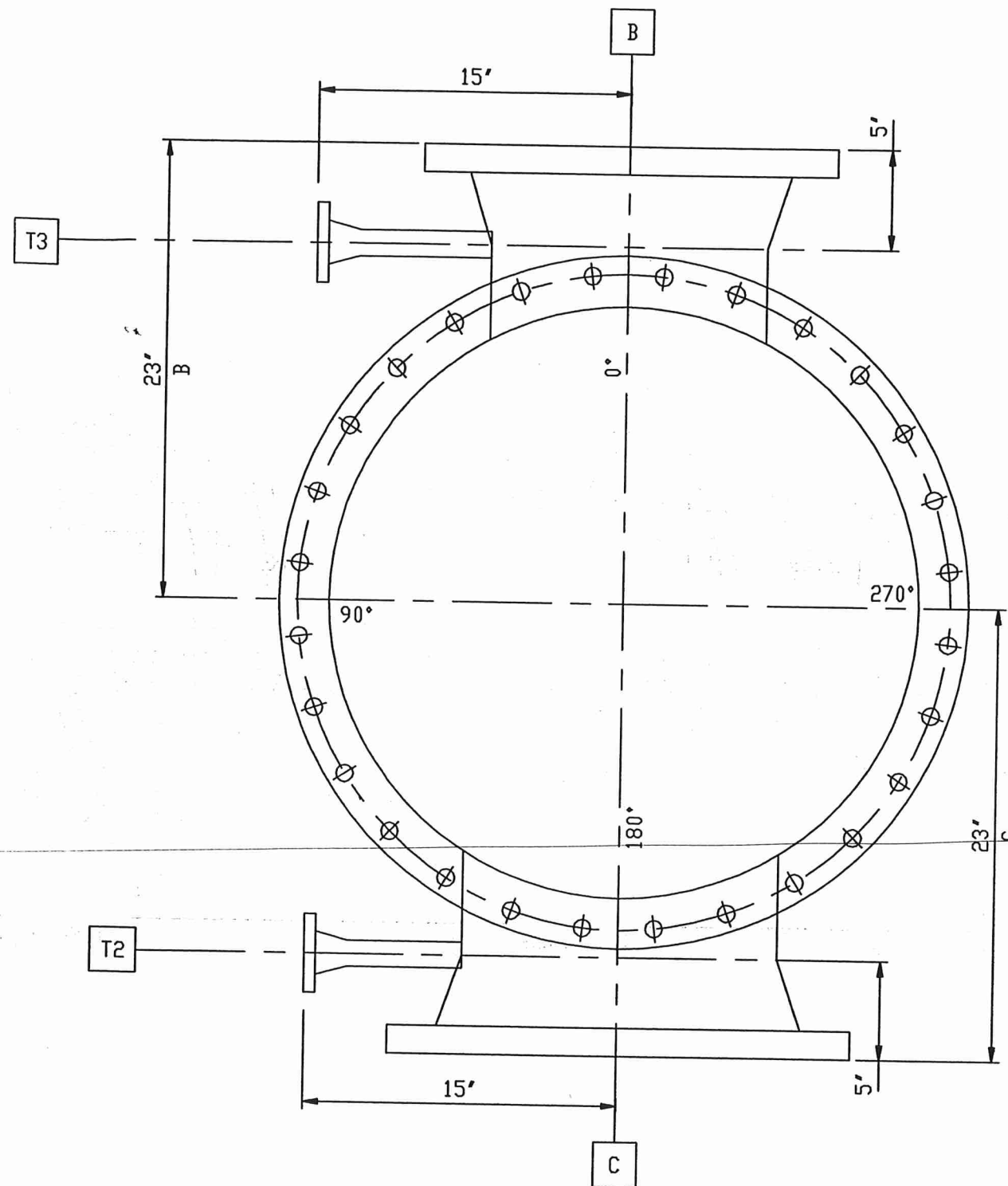
SEE DRAWING B-012492-03 FOR TRUE ORIENTATIONS

				DR. BY	B.P.	HTS 12492		
				DATE	4-30-99	DWG. NO.		REV
				CHK. BY	B.P.	B-012492-02		△
NO.	DATE	DESCRIPTION			BY	CHK	REVISIONS	
△	6-2-99	REV. PER CUST. FAX 6-2-99.			B.P.	B.P.		

C-110



ORIENTATION
VIEWED FROM LEFT END



ORIENTATION
VIEWED FROM RIGHT END



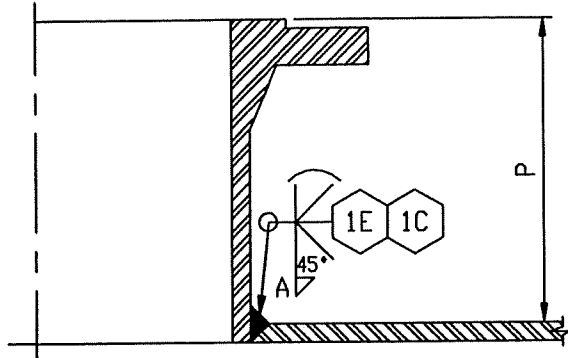
HEAT TRANSFER SYSTEMS, INC
DESIGNER & MANUFACTURER
ST. LOUIS, MO 63111-3655

C:12492.HEX

TRUE ORIENTATIONS

NO.	DATE	DESCRIPTION	BY	CHK	DR. BY	B.P.	HTS 12492	REV
					DATE	4-30-99	DWG. NO.	
					CHK.		P. 012492.02	

NOTE: GRIND ALL INTERNAL WELDS WHERE NECESSARY
FOR EASE OF TUBE BUNDLE INSERTION.

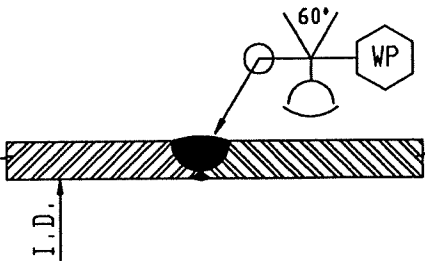


A B C T1 T2 T3
LONG WELD NECK NOZZLE

T3	1	1'	150	RFLWN	202	1 5/16"	7'	---	---	---	---	---	---	---	---	---	---	3/8'	---	---	CONNECTION	---
T2	1	1'	150	RFLWN	203	1 5/16"	6'	---	---	---	---	---	---	---	---	---	---	3/8'	---	---	CONNECTION	---
T1	1	1'	150	RFLWN	201	1 5/16"	7'	---	---	---	---	---	---	---	---	---	---	3/8'	---	---	CONNECTION	---
C	1	16'	150	RFLWN	205	16'	8'	---	---	---	---	---	---	---	---	---	---	3/8'	---	---	SHELLSIDE - OUTLET	---
B	1	14'	150	RFLWN	204	14'	8'	---	---	---	---	---	---	---	---	---	---	3/8'	---	---	SHELLSIDE - INLET	---
A	1	14'	150	RFLWN	204	14'	8'	---	---	---	---	---	---	---	---	---	---	3/8'	---	---	SHELLSIDE - INLET	---
MK	QTY	SIZE	RATING	TYPE	PART	OD	PROJ.	PART	MIN.THK.	PART	WIDTH	THK	PART	PART	PART	PART	PART	A	B	C	SERVICE	REMARKS
			CONNECTION			NECK			LAP RING			REPAD			BLIND	GASKET	STUD	NUT	WELD SIZE			

NOZZLE SCHEDULE

DRILL AND TAP FOR 1/4" PIPE SIZE HOLE IN EACH REINFORCING PAD SEGMENT



WELD	WELD PROCEDURE (WP)	
	SHELL SIDE	TUBE SIDE
LONG	1E	
CIRC	1E	

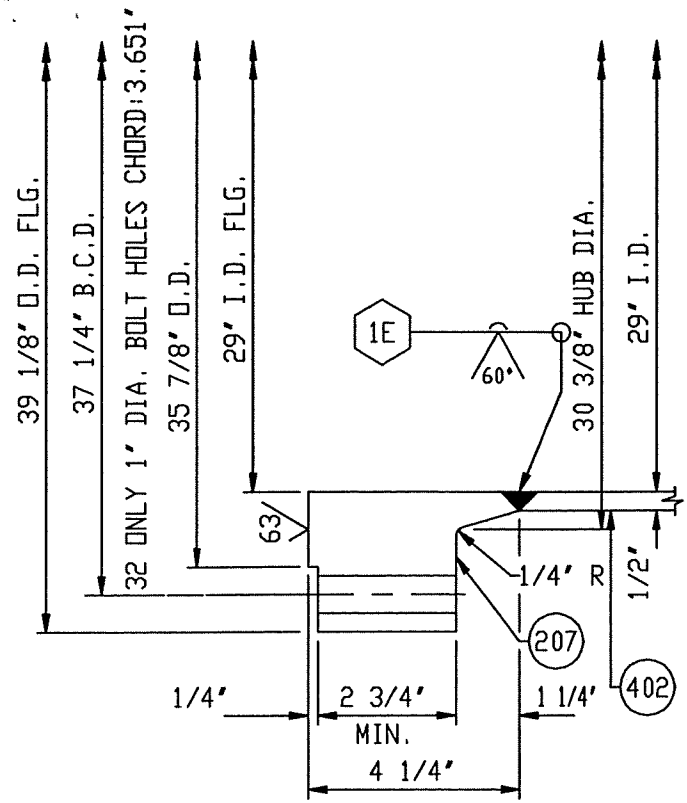
LONG. AND CIRC. SEAMS



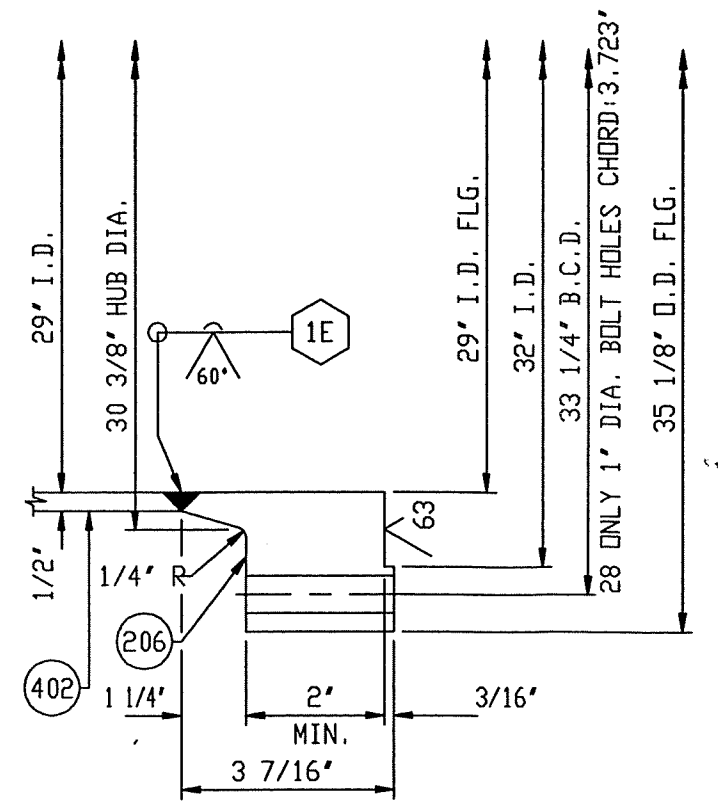
HEAT TRANSFER SYSTEMS, INC
DESIGNER & MANUFACTURER
ST. LOUIS, MO 63111-3655

NOZZLE & WELDING DETAILS

				DR. BY	B.P.	HTS 12492		
				DATE	4-30-99	DWG. NO.		REV
				CHK. BY	B.P.	B-012492-04		0
NO.	DATE	DESCRIPTION			BY	CHK	REVISIONS	



LIFT SHELL FLANGE DETAILS



RIGHT SHELL FLANGE DETAILS



HEAT TRANSFER SYSTEMS, INC
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C:12492.HEX

MACHINING DETAILS

					DR. BY	B.P.	HTS 12492	
					DATE	4-30-99	DWG. NO.	REV
					CHK. BY	B.P.	B-012492-05	0
NO.	DATE	DESCRIPTION	BY	CHK	REVISIONS			



HEAT TRANSFER SYSTEMS, INC
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ST. LOUIS, MO 63111-3655

C:12492.HEX

NAME PLATE

NO.	DATE	DESCRIPTION	BY	CHK
REVISIONS				

DR. BY B.P.

DATE 5-3-99

CHK. BY B.P.

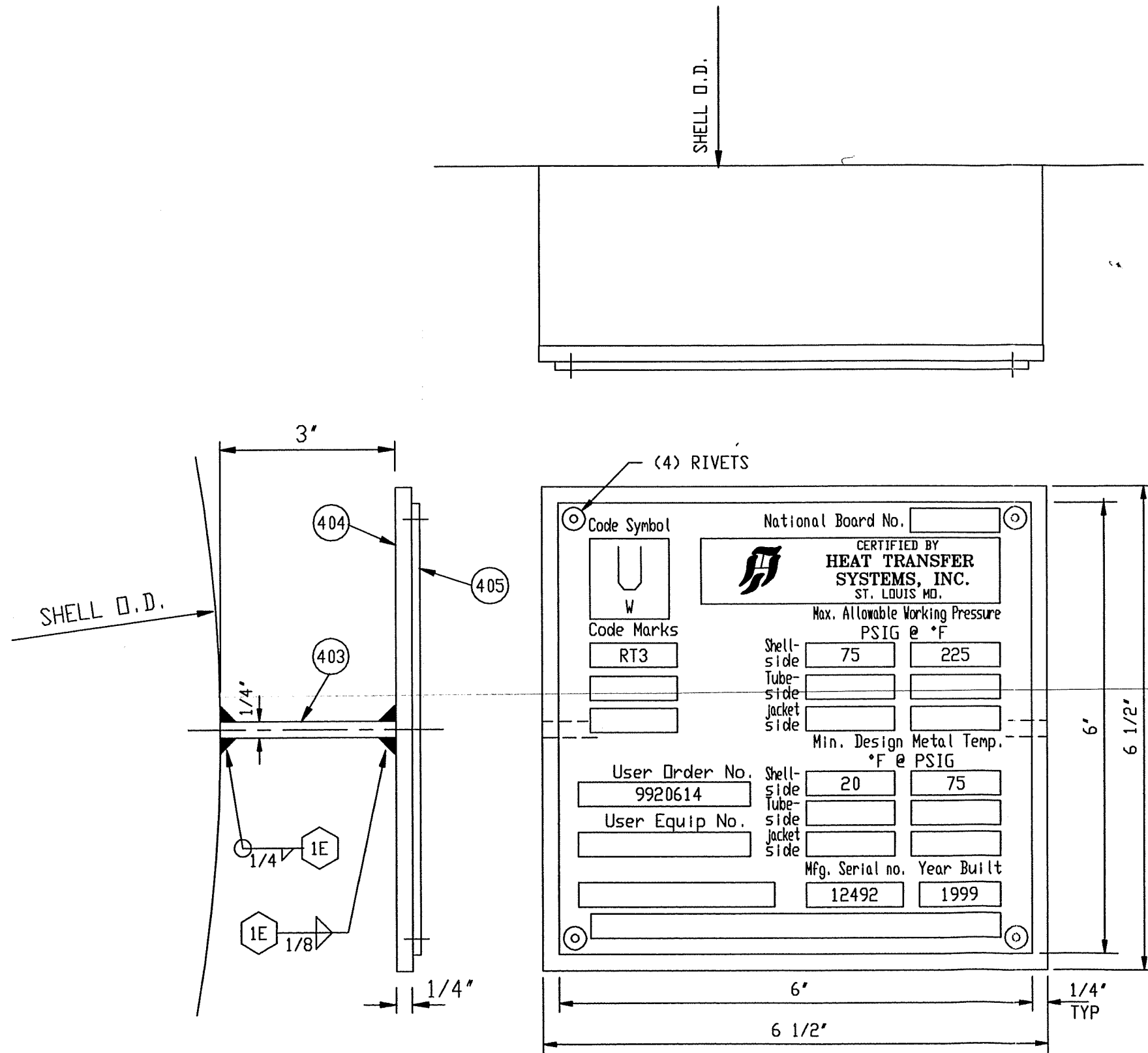
HTS 12492

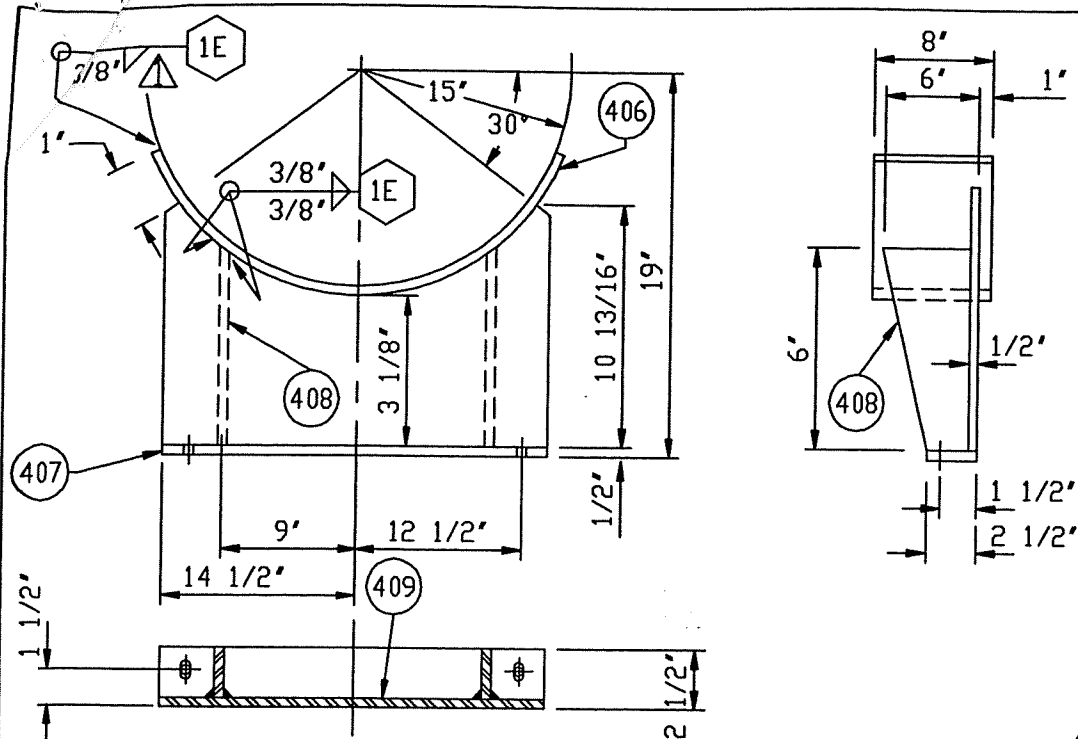
DWG. NO.

B-012492-06

REV

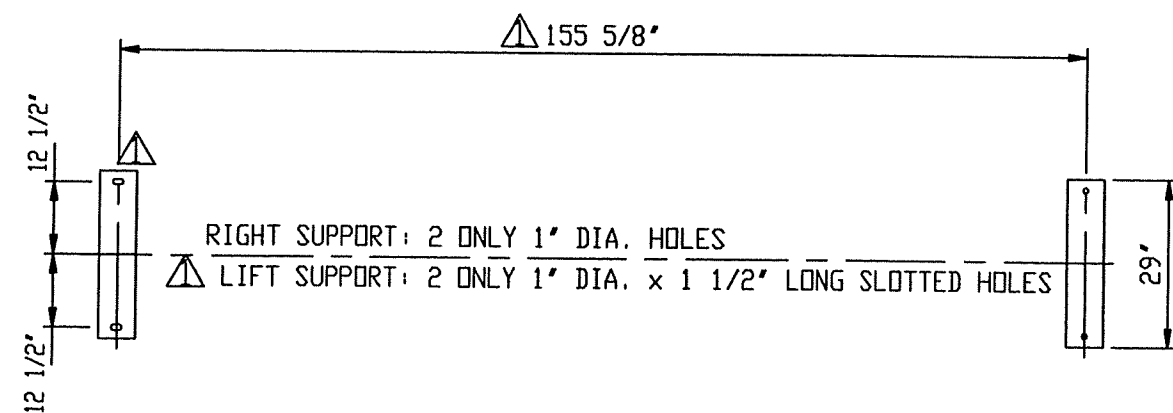
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1E ALL WELDS NOT SHOWN TO BE 3/8'
CONTINUOUS WELDS ALL AROUND

SADDLE SUPPORT DETAIL



ANCHOR BOLT SETTING PLAN
SCALE: 3/8"=1'-0"

SS



HEAT TRANSFER SYSTEMS, INC
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ST. LOUIS, MO 63111-3655

C:12492.HEX

SUPPORTS DETAILS

				DR. BY	B.P.	HTS 12492	
NO.	DATE	DESCRIPTION	BY	CHK	DATE	DWG. NO.	REV
6-2-99	REV. PER CUST. FAX 6-2-99.	B.P.	B.P.	4-30-99	B-012492-07		
REVISIONS				CHK. BY	B.P.		

