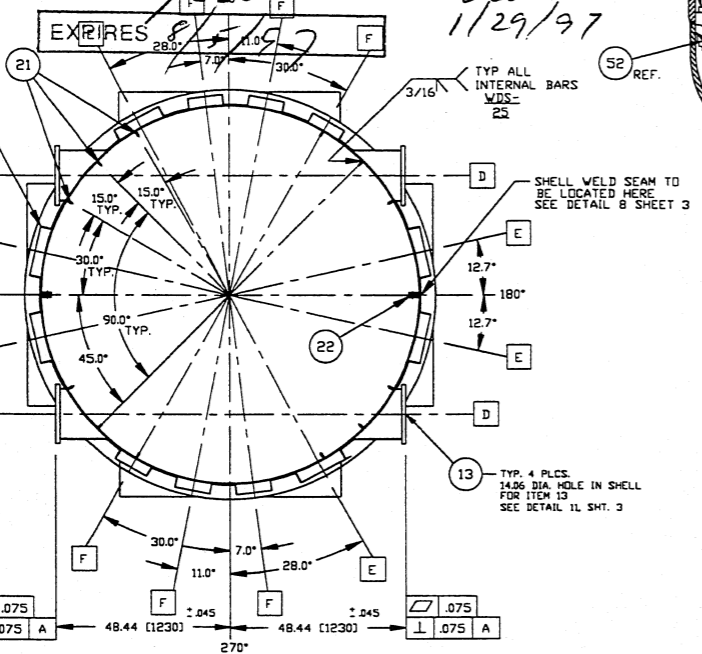




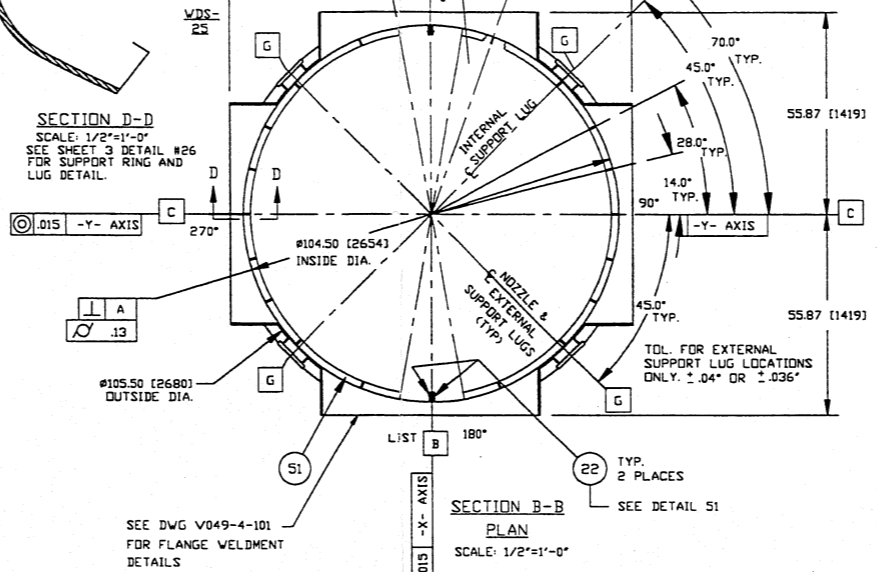
RAYMOND D. CIATTO
 REG. No. 26750
 REGISTERED
 PROFESSIONAL
 ENGINEER
 IN
 CIVIL ENGINEERING

EXPIRES 11/29/97

FOR PROJECTION OF PORTS
 FROM OUTSIDE DIA. OF SHELL
 TO FACE OF TUBE
 SEE DETAIL 2



SECTION D-D
 SCALE: 1/2"=1'-0"
 SEE SHEET 3 DETAIL #26
 FOR SUPPORT RING AND
 LUG DETAIL.

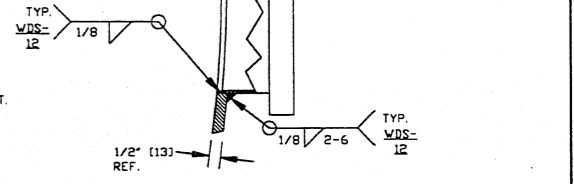


DETAIL #1
 SCALE: 1/2"=1'-0"
 PLATFORM ATTACHMENT LUGS

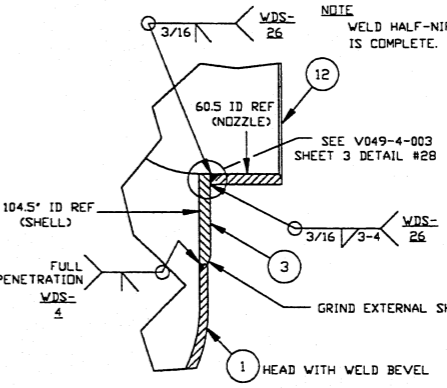
NOTE:
 ITEM #22 TO BE LOCATED ON AXIS
 PERPENDICULAR TO VESSEL ACCESS PORT.



DETAIL #2
 PORT WELDMENT FOR D, E, F & G
 SCALE: 1/4

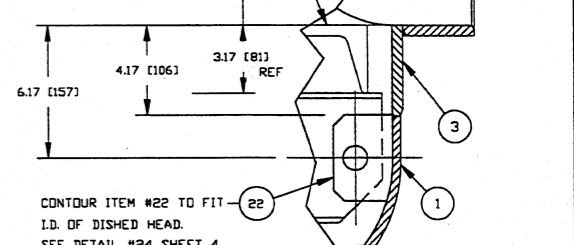


NOTE:
 WELD HALF-NIPPLE TO SHELL ONLY AFTER STRESS RELIEVING OF SHELL
 IS COMPLETE.



DETAIL #3
 SCALE: 1/4

NOTE:
 THIS DIM. TO BE VERIFIED WITH
 PSI BEFORE ATTACHMENT OF
 PLATFORM SUPPORT LUG

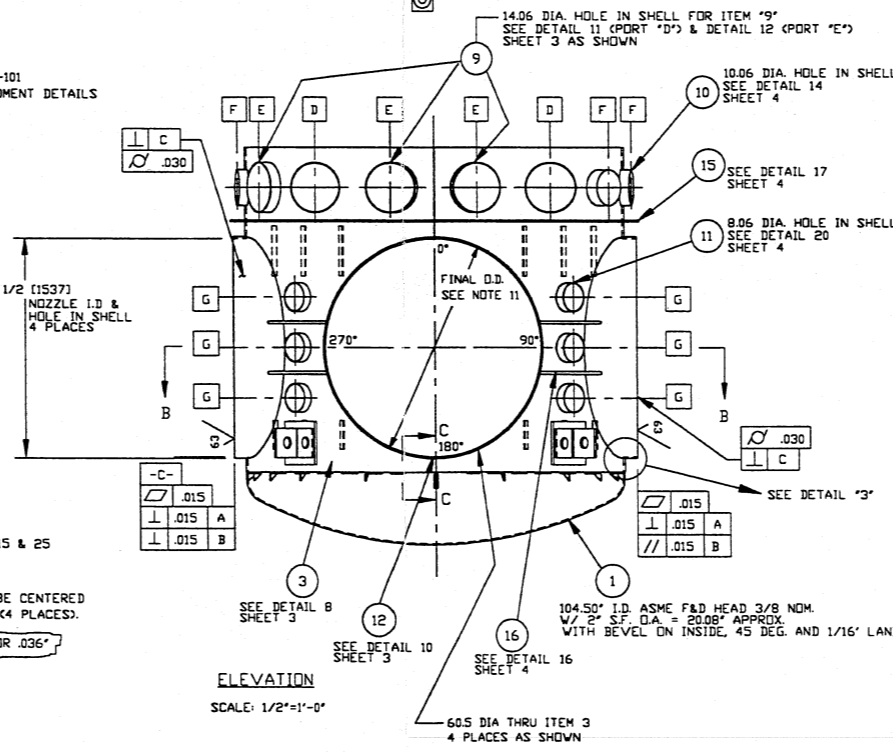
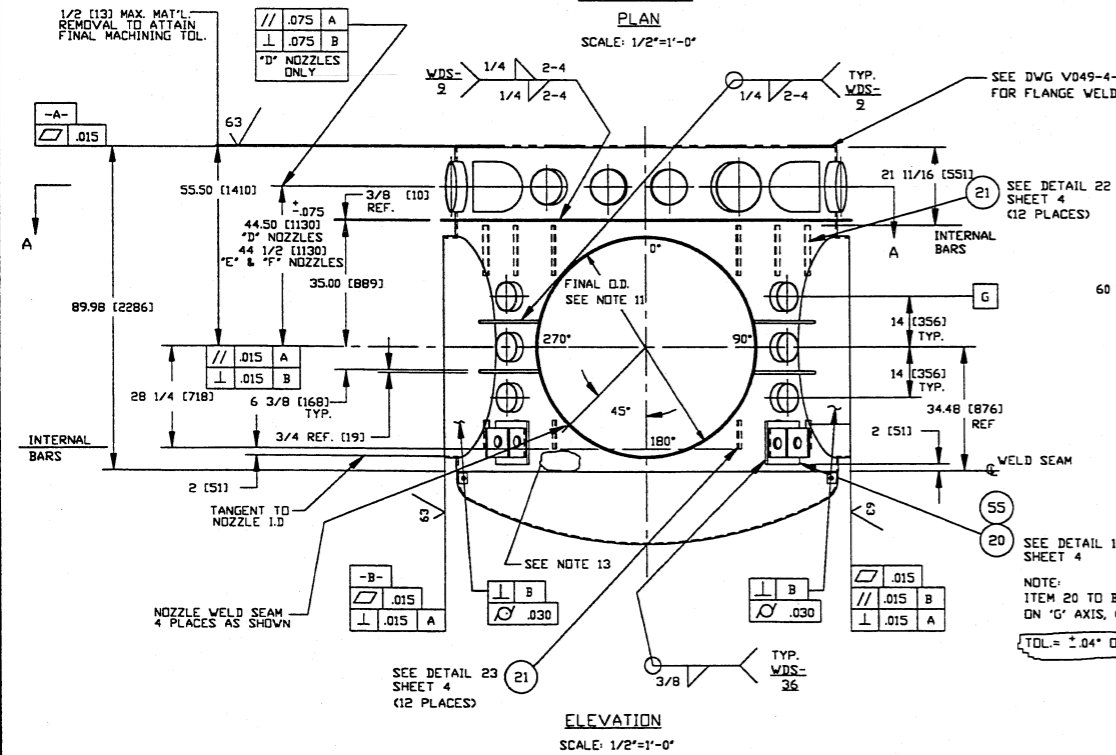


SECTION C-C
 SCALE: 1/4

NOTES

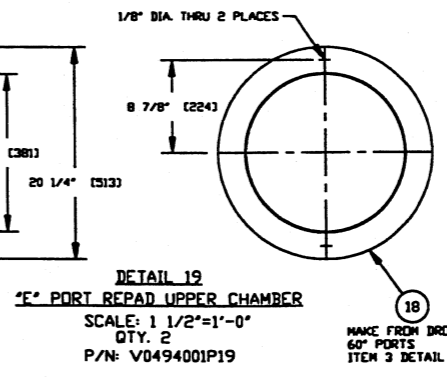
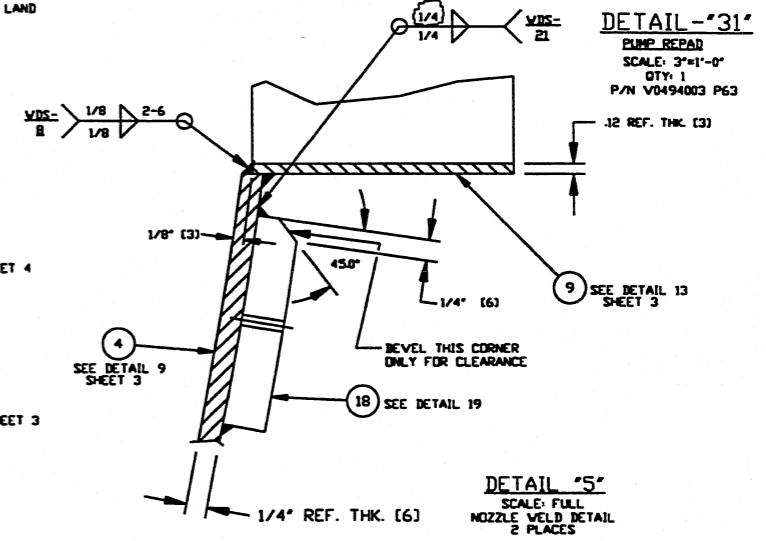
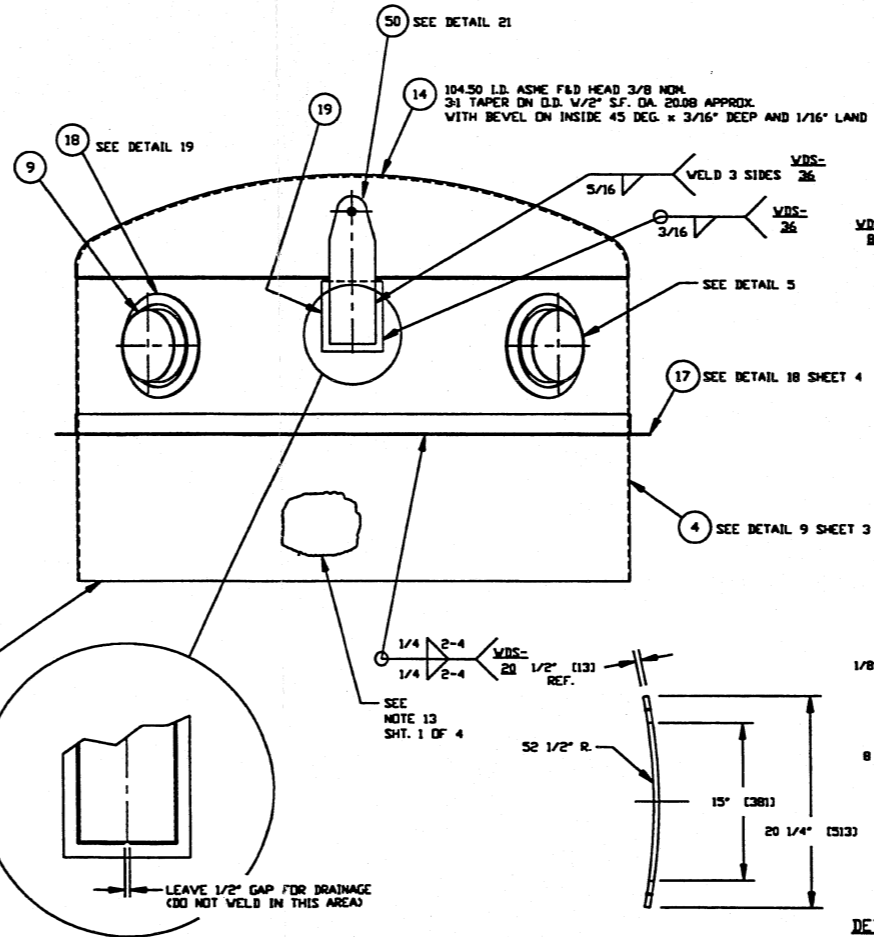
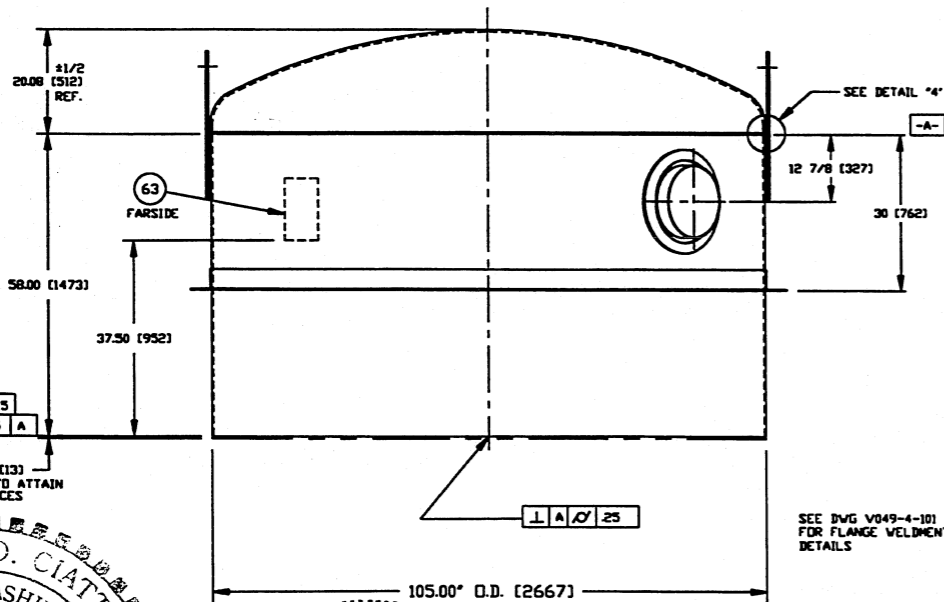
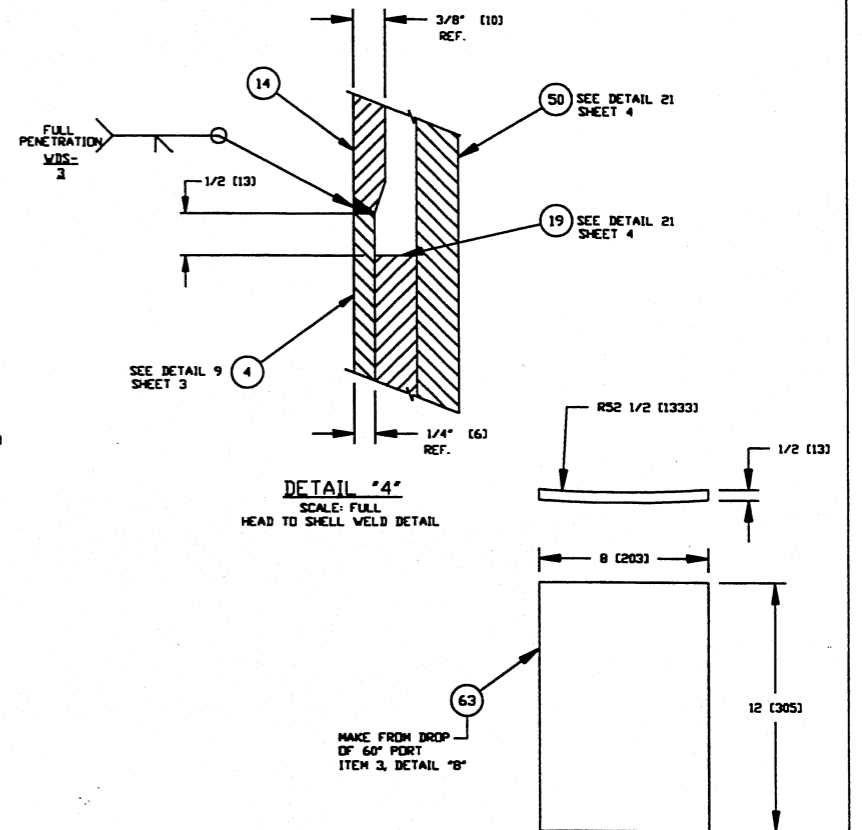
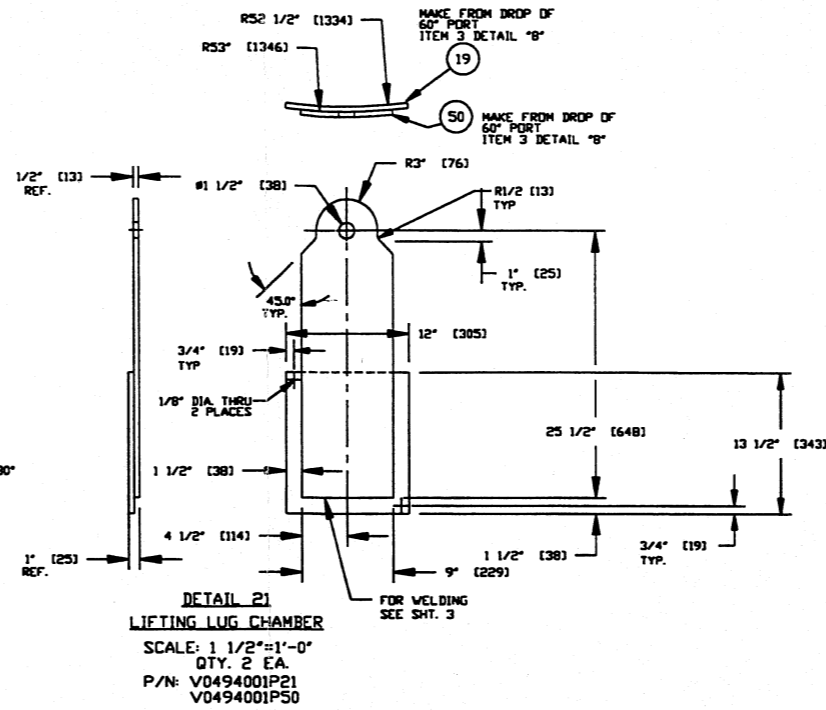
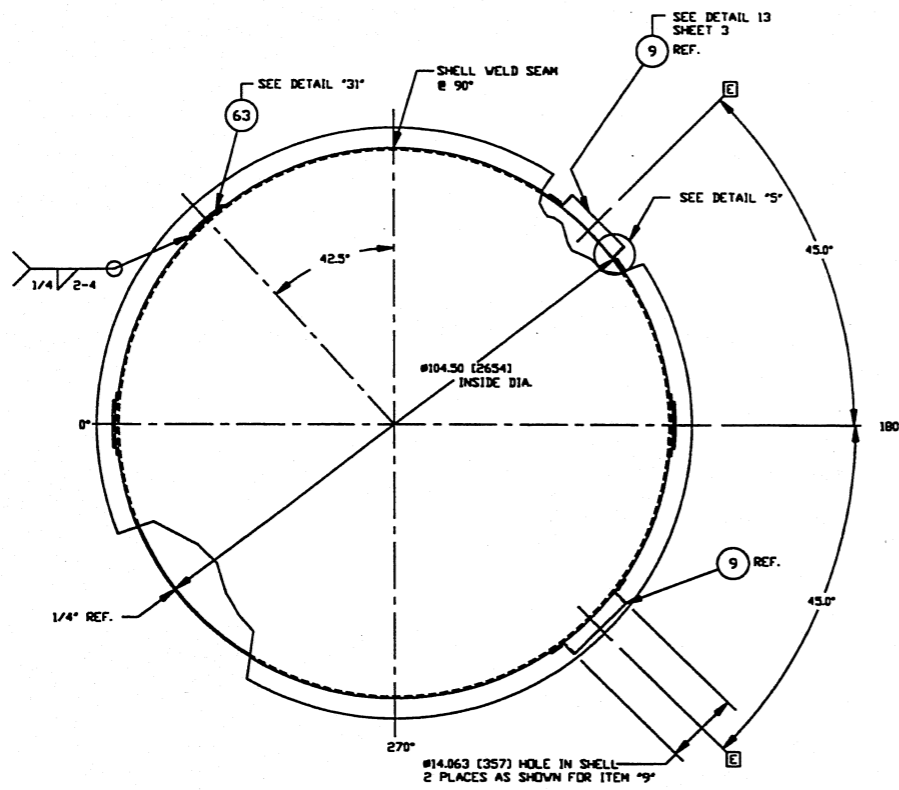
- FOR ADDITIONAL NOTES, NOZZLE SCHEDULE & WELD DATA SEE DWG #V049-4-101.
- CHAMBER FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-117. CHAMBER FABRICATION PLAN TO BE IN ACCORDANCE WITH SPEC. V049-2-080. CHAMBER QUALITY PLAN TO BE IN ACCORDANCE WITH SPEC. V049-2-048. SEE SPEC. V049-2-136 FOR ROLLING AND MACHINING REQUIREMENTS.
- DIMENSIONS SHOWN IN PARENTHESES ARE IN MILLIMETERS.
- DO NOT USE CARBON STEEL BRUSHES OR BRUSHES CONTAMINATED WITH CARBON STEEL ON STAINLESS OR ALUMINUM MATERIAL. GRINDING TO INTERNAL VACUUM BOUNDARY SURFACES IS NOT ALLOWED.
- ALL NOZZLES TO BE CONTOURED TO MEDIAN DIAMETER OF SHELL UNLESS OTHERWISE NOTED.
- CLEAN PER SPEC V049-2-015.
- CERTIFIED MANUFACTURERS MATERIAL TEST REPORTS REQUIRED.
- LEAK TEST & METHOD PER PSI SPEC V049-2-014, BY PSI.
- CONFLAT FLANGES ARE TO BE PROTECTED WITH COVERS DURING AND AFTER MANUFACTURING, PER PSI SPEC V049-4-123.
- REMOVE ALL TEMPORARY FIXTURES, LUGS, ETC. PRIOR TO CLEANING & SHIPMENT TO PSI.
- WHEN FAOING OFF 60.5" I.D. NOZZLES, MACHINE THE END OF EACH FINISHED NOZZLE TO 61.37 +0/-0.030 O.D. x 9/16" DEEP (TYP. 4 PLCS.) MIN. WALL THICKNESS = .375"
- BEVELS ON 60" NOZZLES TO SHELL AND FLANGES MUST BE MAINTAINED DURING FIT-UP, AND WELDING.

- EACH FINISHED SHELL IS TO BE MARKED WITH A SEQUENTIAL PSI SERIAL NUMBER. THE UPPER & LOWER SHELLS ARE TO HAVE THE SAME NUMBER WHEN SHIPPED TO PSI. THE NUMBER IS TO BE MADE FROM THE DRAWING PLUS THE SEQUENTIAL NUMBER. V0494003-01, 02 ETC.
- WDS NUMBERS REFER TO SPEC. V049-2-084.
- STRESS RELIEVE PER SPEC. V049-2-048 BEFORE WELDING CONFLAT HALF NIPPLE FLANGES TO SHELL.

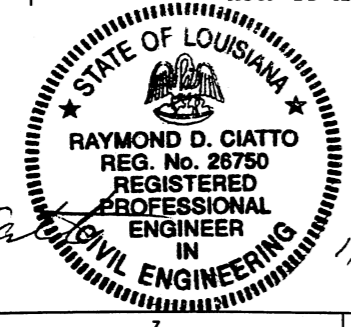
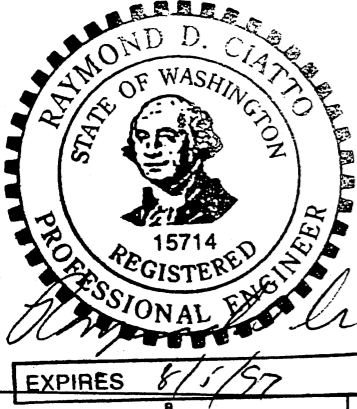


<p>PROPRIETARY AND CONFIDENTIAL</p> <p>THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION BELONGING TO PROCESS SYSTEMS INTERNATIONAL, INC. OR ITS AFFILIATED COMPANIES AND SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT WAS SUPPLIED. IT SHALL NOT BE COPIED, REPRODUCED OR OTHERWISE USED, NOR SHALL SUCH INFORMATION BE FURNISHED IN WHOLE OR IN PART TO OTHERS EXCEPT IN ACCORDANCE WITH THE TERMS OF ANY AGREEMENT UNDER WHICH IT WAS SUPPLIED OR WITH THE PRIOR WRITTEN CONSENT OF PROCESS SYSTEMS INTERNATIONAL, INC. AND SHALL BE RETURNED UPON REQUEST.</p>		<p>V049-4-101 BSC OVERALL ASSEMBLY</p>		<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</p> <p>TOLERANCES: FRACTIONAL ± .1 ANGULAR MACH ± 30° BEND ± 2° TWO PLACE DECIMAL ± .030 THREE PLACE DECIMAL ± .015 FINISHED SURFACE RGS. DUTY REMOVE ALL BURS</p> <p>DO NOT SCALE THIS DRAWING</p> <p>USED DN: _____</p> <p>NEXT ASS'Y: _____</p>		<table border="1"> <tr> <th>REV</th> <th>DESCRIPTION</th> <th>CHKD</th> <th>DRWN</th> <th>DATE</th> <th>DESN</th> </tr> <tr> <td>3</td> <td>REISSUED FOR FABRICATION/REVISED DET.11,SHT 3 OF 4</td> <td>PEF</td> <td>DMW</td> <td>RDC</td> <td>PV 01/23/97 0421</td> </tr> <tr> <td>2</td> <td>REISSUED FOR FABRICATION</td> <td>GS</td> <td>PEF</td> <td>DMW</td> <td>RDC REC PV 10/30/96 0337</td> </tr> <tr> <td>1</td> <td>DESIGN UPDATE</td> <td>GS</td> <td>PEF</td> <td>DMW</td> <td>RDC REC PV 9/27/96 0270</td> </tr> <tr> <td>0</td> <td>ISSUED FOR FABRICATION</td> <td>PEF</td> <td>RDC</td> <td>REC</td> <td>GA 8/28/96 0230</td> </tr> <tr> <td>0A</td> <td>AS NOTED/REISSUED FOR QUOTES 7/2/96 PER R.E.C.</td> <td></td> <td></td> <td></td> <td>PV 7/10/96</td> </tr> </table>		REV	DESCRIPTION	CHKD	DRWN	DATE	DESN	3	REISSUED FOR FABRICATION/REVISED DET.11,SHT 3 OF 4	PEF	DMW	RDC	PV 01/23/97 0421	2	REISSUED FOR FABRICATION	GS	PEF	DMW	RDC REC PV 10/30/96 0337	1	DESIGN UPDATE	GS	PEF	DMW	RDC REC PV 9/27/96 0270	0	ISSUED FOR FABRICATION	PEF	RDC	REC	GA 8/28/96 0230	0A	AS NOTED/REISSUED FOR QUOTES 7/2/96 PER R.E.C.				PV 7/10/96	<p>PROCESS SYSTEMS INTERNATIONAL, INC. 20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA</p> <p>BSC SHELL WELDMENT/MACHINING LOWER SHELL LIGO VACUUM EQUIPMENT</p> <p>CAD FILE: 400351 SIZE: D DWG. NO: V049-4-003 REV: 3</p> <p>SCALE: AS NOTED SHEET: 1 OF 4</p>	
REV	DESCRIPTION	CHKD	DRWN	DATE	DESN																																								
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Jan 27, 1997 - 11036-20



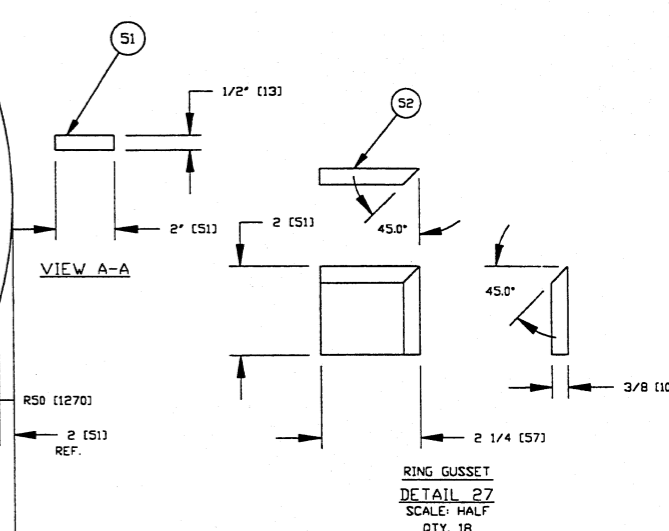
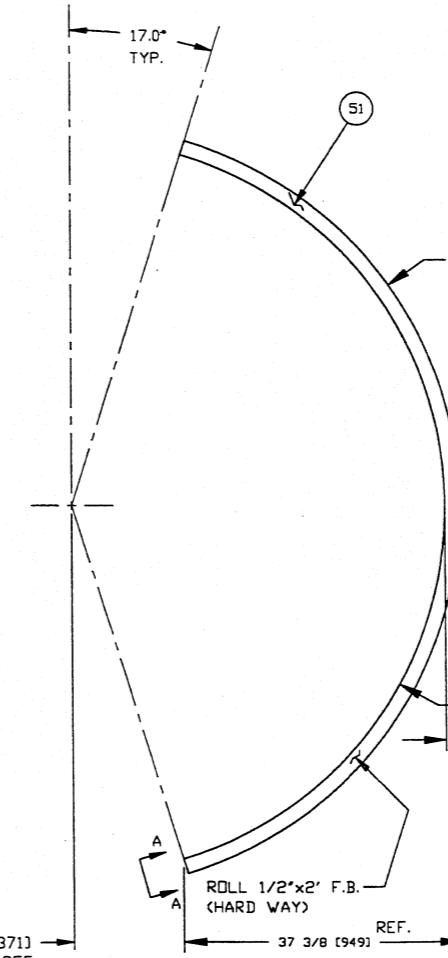
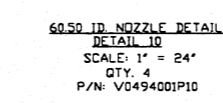
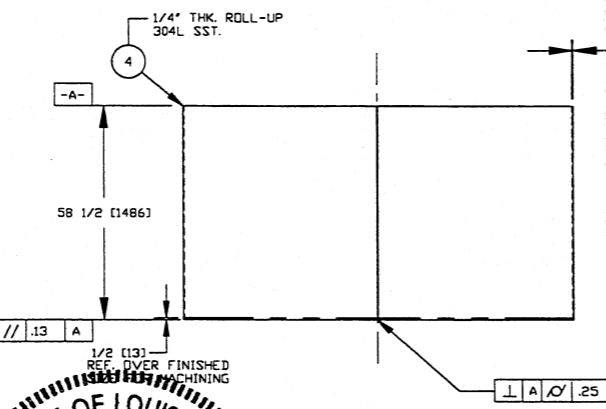
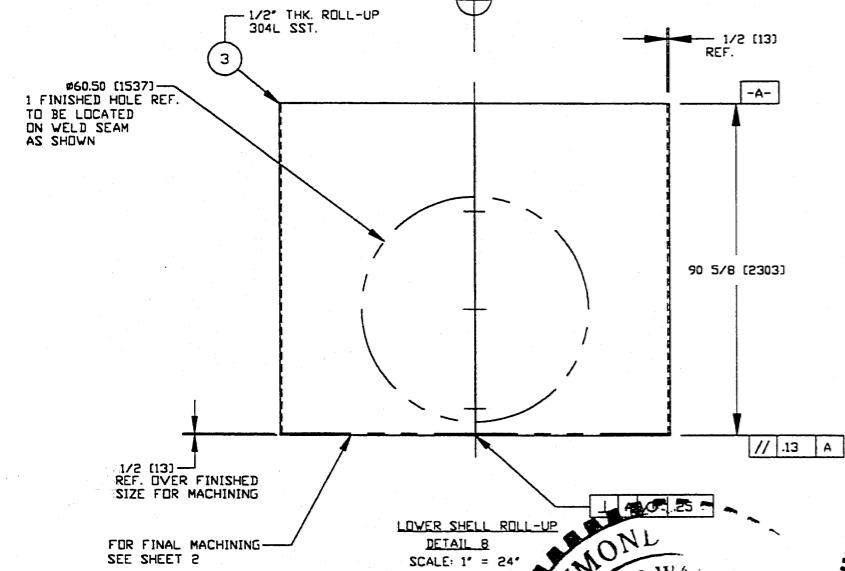
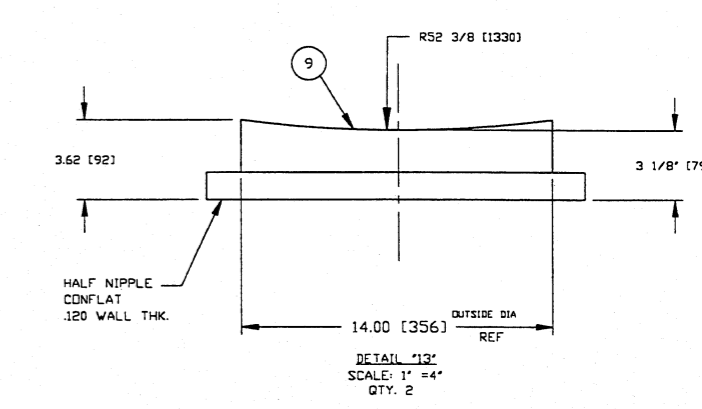
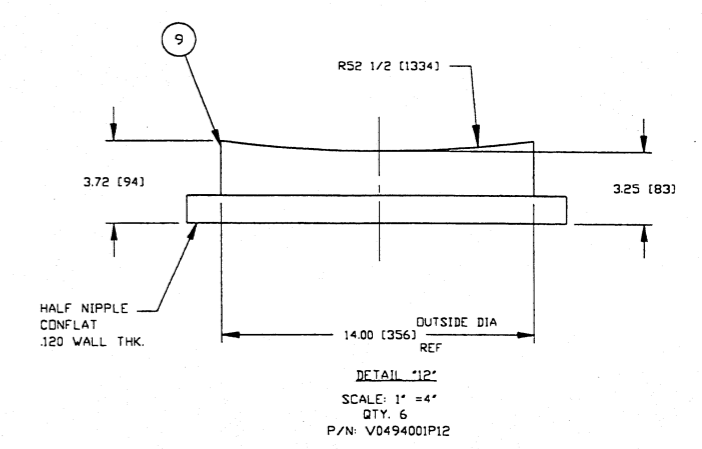
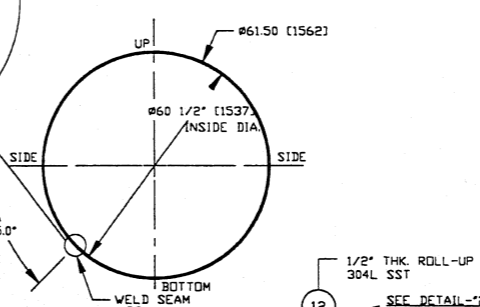
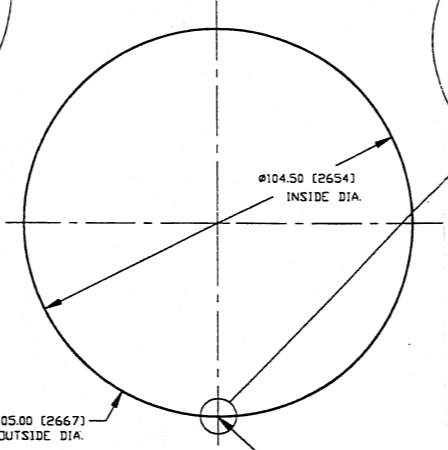
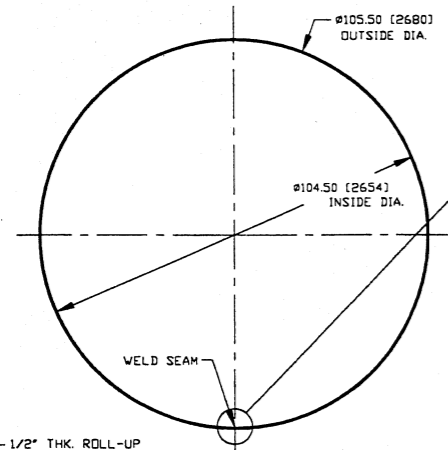
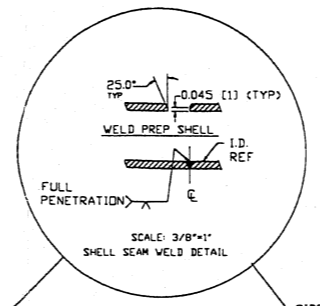
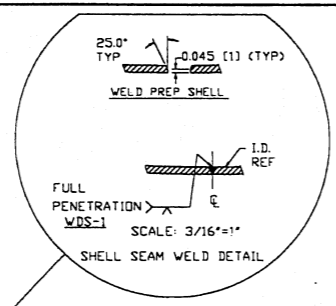
PROCESS SYSTEMS INTERNATIONAL INC. 20 BALLOUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
BSC SHELL WELDMENT/ MACHINING UPPER SHELL LIGD VACUUM EQUIPMENT			
CAD FILE 400352	SIZE D	DWG. NO. V049-4-003	REV. 3
SCALE 1/16	SHEET 2 OF 4		



1/29/97

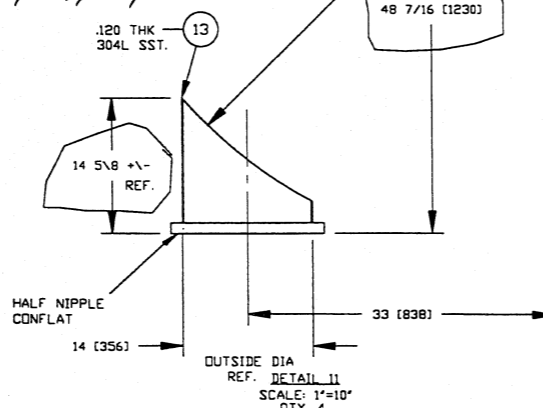
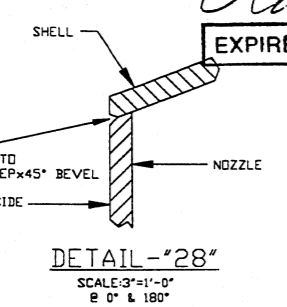
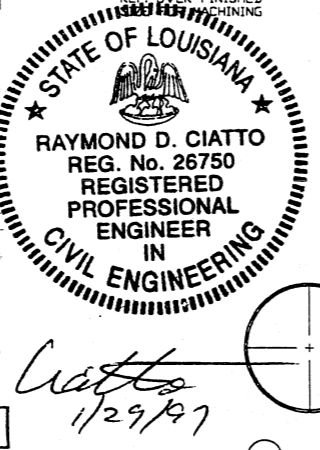
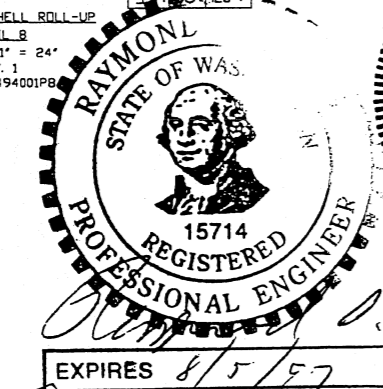
EXPIRES 8/5/97

DEC 30, 1996 - 160082



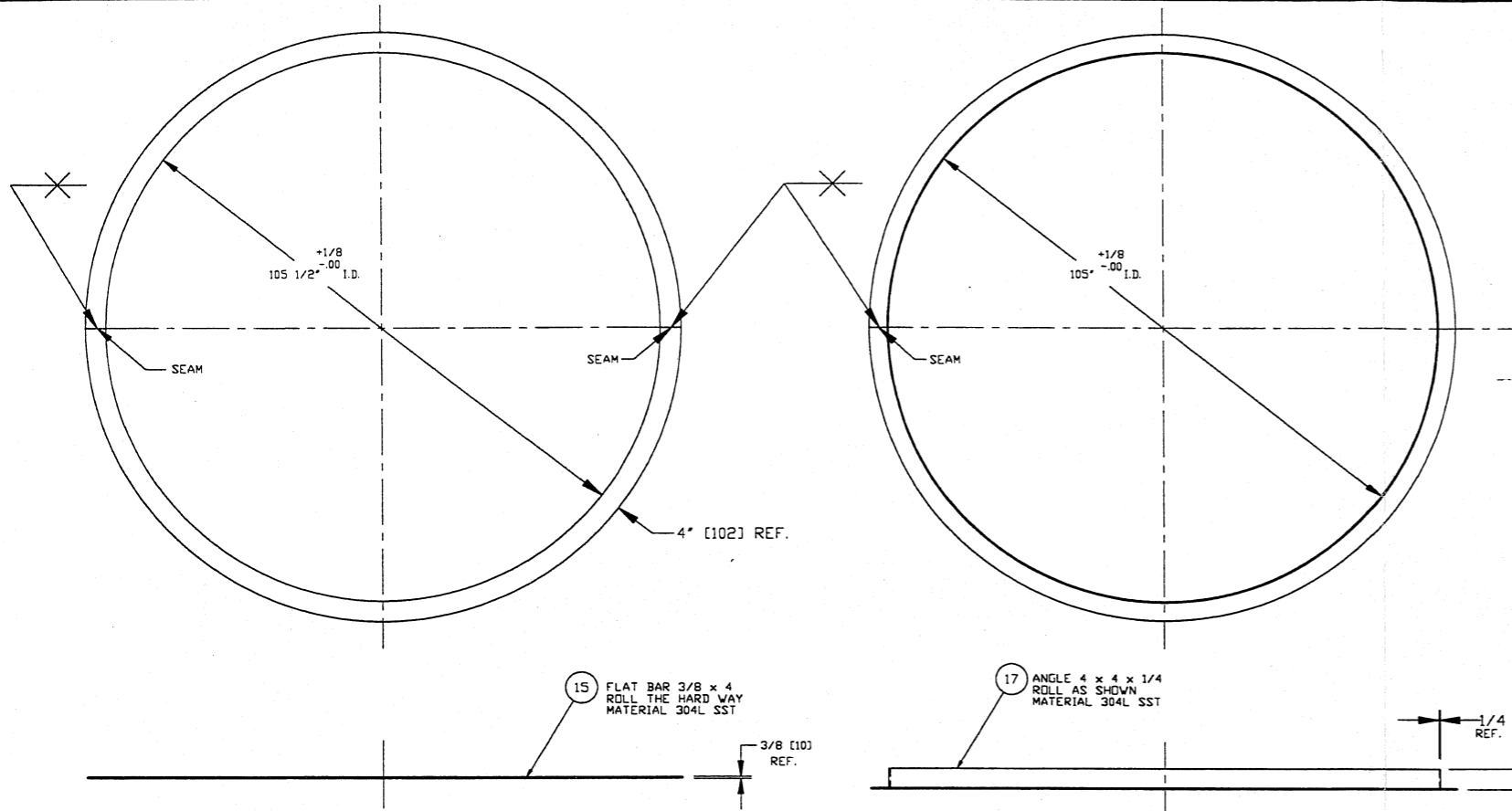
LOWER SHELL ROLL-UP
DETAIL 8
SCALE: 1" = 24"
QTY. 1
P/N: V0494001P8

UPPER SHELL ROLL-UP
DETAIL 9
SCALE: 1" = 24"
QTY. 1
P/N: V0494001P9



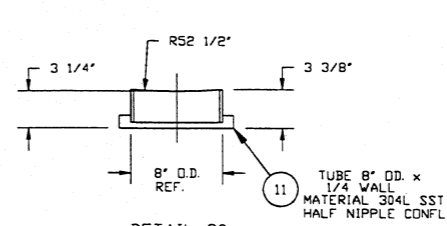
NOTE
THE BEVEL ANGLE ON THE VESSEL END OF THE 60.5\"/>

PROCESS SYSTEMS INTERNATIONAL INC. 20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
BSC SHELL WELDMENT/MACHINING ROLL-UP DETAILS LIGO VACUUM EQUIPMENT			
CAD FILE 4003S3	SIZE D	DWG. NO. V049-4-003	REV. 3
SCALE AS NOTED	SHEET 3 OF 4		

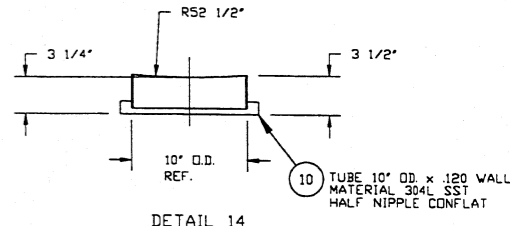


DETAIL 17
SHELL STIFFENERS LOWER CHAMBER
SCALE: 3/4"=1'-0"
QTY. 1

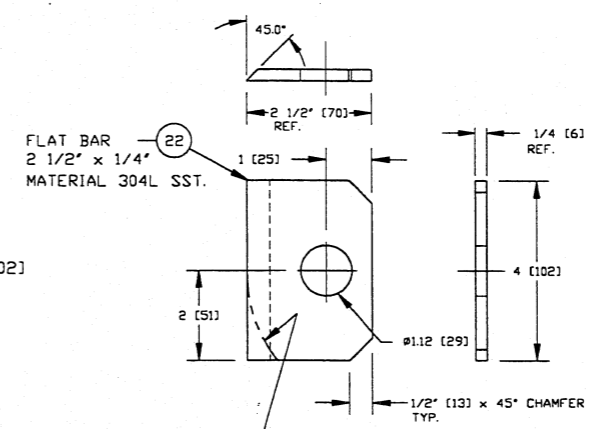
DETAIL 18
SHELL STIFFENERS UPPER CHAMBER
SCALE: 3/4"=1'-0"
QTY. 1



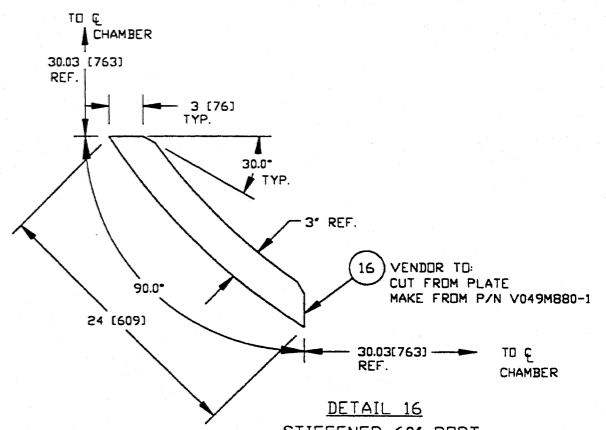
DETAIL 20
"G" PORT DETAIL LOWER CHAMBER
SCALE: 1 1/2"=1'-0"
QTY. 12



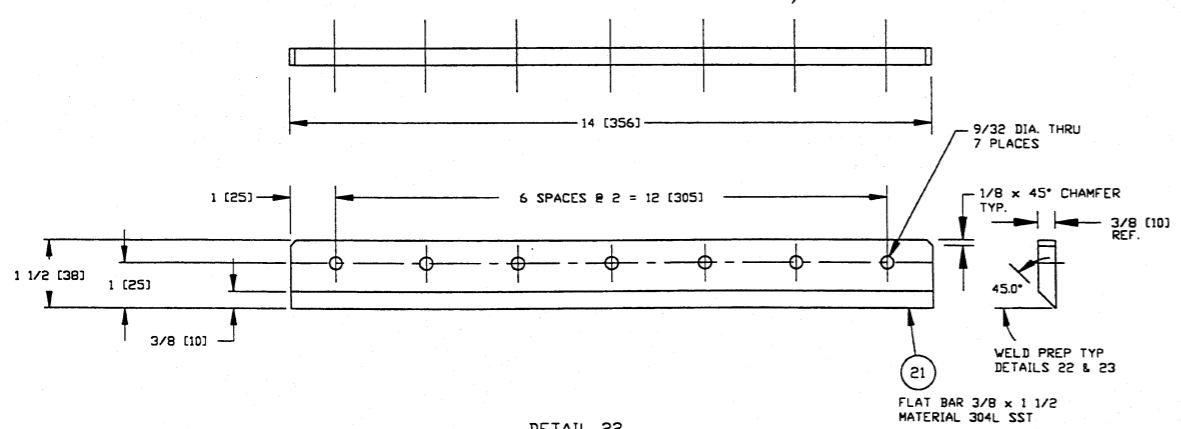
DETAIL 14
"F" PORT DETAIL LOWER CHAMBER
SCALE: 1 1/2"=1'-0"
QTY. 6



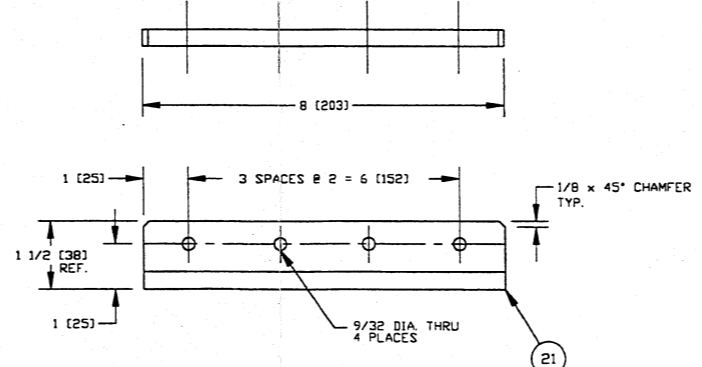
DETAIL 24
PLATFORM ATTACHMENT BRKT.
SCALE: HALF
QTY. 4



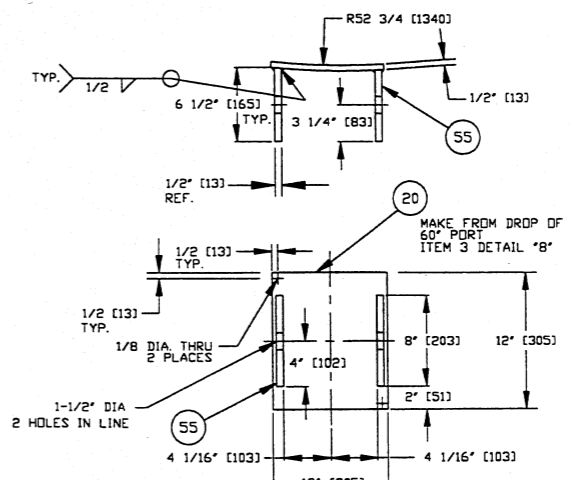
DETAIL 16
STIFFENER 60° PORT
SCALE: 1 1/2"=1'-0"
QTY. 8



DETAIL 22
INTERNAL ATTACHMENT BRKT. UPPER
SCALE: HALF
QTY. 12



DETAIL 23
INTERNAL ATTACHMENT BRKT. LOWER
SCALE: HALF
QTY. 12



DETAIL 15
SUPPORT PAD DETAIL
SCALE: 1 1/2"=1'-0"
QTY. 4

PROCESS SYSTEMS INTERNATIONAL INC.
20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA

BSC SHELL WELDMENT/ MACHINING
STIFFENER & MISC. DETAILS
LIGD VACUUM EQUIPMENT

CAD FILE 4003S4	SIZE D	DWG. NO. V049-4-003	REV. 3
SCALE AS NOTED		SHEET 4 OF 4	