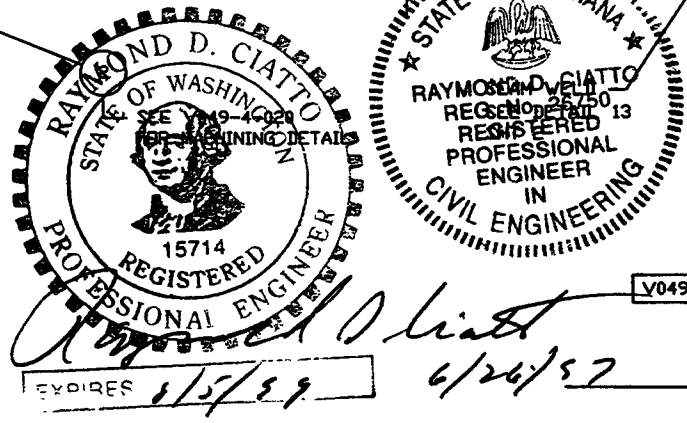


ITEM	PART NUMBER	SUFFIX	QTY	UN	DESCRIPTION
1	V0494097		1	EA	FLANGE, FLAT FACED, 60 1/2" ID X 68 1/4" OD
2	V0494020		1	EA	FLANGE, GROOVED, 72 1/4" ID X 80" OD
3	V0494055		1	EA	FLANGE, REDUCING, 61.06" ID X 73" OD X 1" THK
4	V0494A7AP4		2	EA	SHELL, 304/304L SST, 1/4" THK
5	V0494A7AP5		1	EA	SHELL, 304/304L SST, 1/4" THK
6			1	2	FT BAR, CS A36, 1 3/8" X 6"
7	V049M782		40	EA	NUT, HEX, SILICON BRZ, 5/16-18
8	V049M785		80	EA	WASHER, FLAT, 5/16, 18-8 SST
9			1	13	FT TUBING, 4" X 2" X 3/16" A500 GR B
10	V049M813		1	2	EA RING, ANGLE, 2 1/2" X 2 1/2" X 1/4"-304 SST
11	V049M814		1	1	EA RING, ANGLE, 4" X 4" X 1/4"-304 SST
12	V049M308		3	1	EA HALF NIPPLE, SST, 304L, CONFLAT 16 1/2" O.D.
13	V049M310		3	1	EA HALF NIPPLE, SST, 304L, CONFLAT 12" O.D.
14	V049M753		3	6	EA BOLT, STL A325, 5/8-11 UNC X 3 1/2 LG
15	V049M755		3	6	EA NUT, STL A325, 5/8-11 UNC
16			3	4	EA ANCHOR 1" DIA, HILTI HVA, 8-1/2" EMBEDMENT
17	V049M920		1	1	EA RING, 15" ID X 20" OD X 1/2" THK-304 SST
18	V049M921		1	1	EA RING, 11" ID X 16" OD X 1/2" THK-304 SST
19	V049M852		3	3	FT BAR, 304 SST, 4" X 3/8"
20	202678		3	66	EA BOLT, SA 193 B7, 7/8-9 UNC X 4" LG
21	202679		3	66	EA NUT, SA 194 B7, 7/8-9 UNC
22	202581		3	162	EA WASHER, STL, 1 3/4" OD X 15/16 ID X 1/4" THK
23	V049M314		3	1	EA HALF NIPPLE, SST, 304L, CONFLAT 4 1/2" O.D.
24	202557		3	1	EA BLANK, CONFLAT, SST 304L, 4 1/2" OD
25	V0494195		3	1	EA BLANK, CONFLAT, SST 304L, 12" OD X 25 OF
26	202666		3	1	EA BLANK, CONFLAT, SST 304L, 16 1/2" OD
27	202558		3	1	EA GASKET, CONFLAT, COP OFHC, 4 1/2" OD
28	202552		3	1	EA GASKET, CONFLAT, COP OFHC, 12" OD
29	202670		3	1	EA GASKET, CONFLAT, COP OFHC, 16 1/2" OD
30	V049M776		8	EA	BOLT, HEX HD, 5/16-18 X 2 1/4 LG, 18-8 SST
31	V049M779		32	EA	BOLT, HEX HD, 5/16-18 X 3 LG, 18-8 SST
32	V049M780		36	EA	BOLT, HEX HD, 3/8-16 X 3 LG, 18-8 SST
33	V049M783		36	EA	NUT, HEX, SILICON BRZ, 3/8-16
34	V049M020		1	EA	D-RING, VITRON OPER SPEC V049-2-045D
35	V049M021		1	EA	D-RING, VITRON OPER SPEC V049-2-045D
36	V049M786		72	EA	WASHER, FLAT, 3/8, 18-8 SST
37	V0494A7AP37		2	EA	SUPPORT ASSEMBLY
38	V049M773		3	6	EA WASHER, LOCK, 5/8", A325
39	V0494061		1	EA	3/4" O.D. ELBOW X 2 3/4" O.D. CF.
40	V049080G4		1	EA	SHIPPING COVER ASSY
41	V049M740		1	EA	PSI NAME PLATE, 2" X 3"

- NOTES: (CONT ON SHT 2)
- EACH FINISHED SHELL ASSY. SET IS TO HAVE EACH OF THE PIECES MARKED WITH THE SAME SET NO. AND SHIPPED TOGETHER. THE NUMBER IS TO BE MADE FROM THE DRAWING NO. PLUS SEQUENTIAL LETTER. V0494A7A-A, B ETC.
  - FLANGE INCLUDES AN ANNULAR CHANNEL BETWEEN D-RINGS, FOR A SINGLE PUMPOUT PORT, SEE DWG V049-4-061.
  - FOR FLANGE DETAILS SEE DWGS. V049-4-020, 097, & 055
  - SPOOL FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-097
  - CLEAN PER SPEC: V049-2-015
  - BOLT HOLES OF ALL FLANGES TO STRADDLE VERTICAL CENTERLINE +/- .015.
  - CERTIFIED MANUFACTURER'S MATERIAL TEST REPORTS REQUIRED, AS NOTED.



TAG NO'S: WA-7A1, WA-7A2, LA-7A2

APPROX. 3 FOR LEVELING AND GROUT REF.

APPROX. WEIGHT: 4134#

PROPRIETARY AND CONFIDENTIAL  
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SYMBOL	CHARACTERISTIC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES
$\square$	FLATNESS	FRACTIONAL ± .1 DECIMAL ± .015 TWO PLACE DECIMAL ± .015 THREE PLACE DECIMAL ± .015 FINISHED SURFACE THIS BREAK CORNER IS TO REMOVE ALL BURRS
$\circ$	CYLINDRICITY	
//	PARALLELISM	
$\perp$	PERPENDICULARITY	
$\sphericalangle$	ANGULARITY	
$\oplus$	TRUE POSITION	DO NOT SCALE THIS DRAWING
$\odot$	CONCENTRICITY	USED ON NEXT ASSY

REV	DESCRIPTION
3	REISSUED FOR FAB/SHIPPING AS NOTED
2	DESIGN UPDATE
1	DESIGN UPDATE/FABRICATION (SHELL ONLY)
0	ISSUED FOR FAB
P1	PRELIMINARY

REV	DESCRIPTION	CHKD	DRWN	DATE	DESN
3				06/26/97	0444
2				11/22/96	0180
1				10/3/96	0283
0				4/27/96	0145
				3/19/96	

PROCESS SYSTEMS INTERNATIONAL, INC.  
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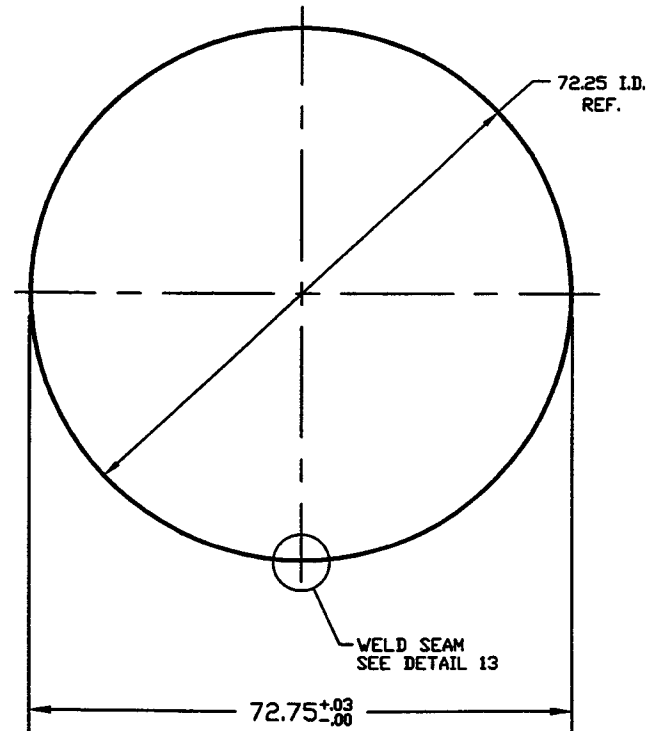
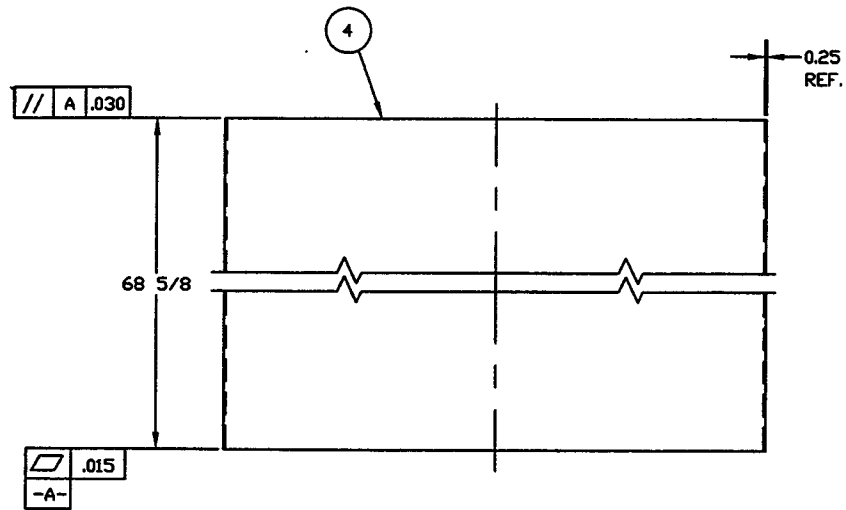
ADAPTER A-7A  
60.50" ID X 72.25" ID  
LIGO VACUUM EQUIPMENT

CAD FILE: V0494A7A/4A7A1  
SIZE: D  
DWG NO: V049-4-A7A  
REV: 3

SCALE: 1-1/2" = 1'  
SHEET: 1 OF 5

NOTES:

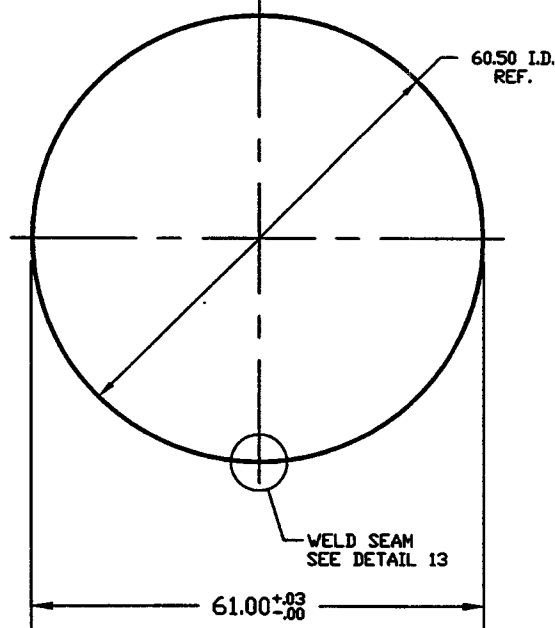
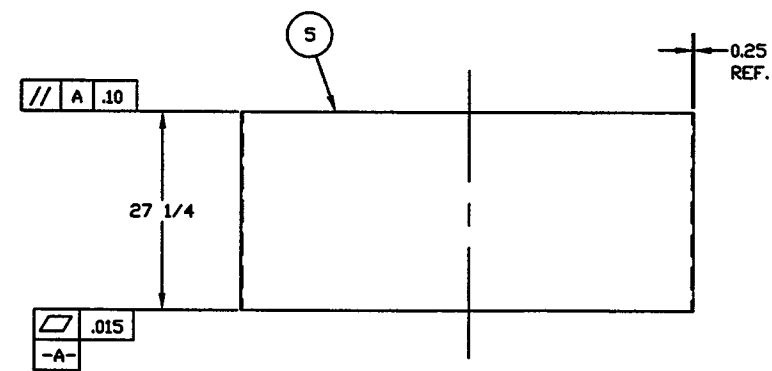
9. LEAK TEST & METHOD PER PSI SPEC. V049-2-014
10. THE CENTER LINES OF ALL SHELLS AND END FLANGES, ARE TO LIE ON THE COMMON CENTER LINE WITHIN +/- 1/16
11. MACHINING & ROLLING PER SPEC V049-2-136.
12. PLATES PRIOR TO ROLLING MUST HAVE DIAGONAL CORNER TO CORNER DIMENSIONS WITHIN 1/16" OF EACH OTHER.
13. EACH SHELL IS TO BE MARKED WITH THE PSI PART NO. AS SHOWN WITH THE SHELL ITEM NO.
14. STRUCTURAL STEEL FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-039.
15. CONFLAT FLANGES ARE TO HAVE PROTECTIVE COVERS AT ALL TIMES DURING & AFTER MANUFACTURING.
16. CONFLAT LEAK CHECK SLOTS ARE TO BE POSITIONED ON VERTICAL CENTERLINE.
17. WDS NO'S. REFER TO WELD DATA SPEC. V049-2-084.



**DETAIL "3"**

QTY: 2

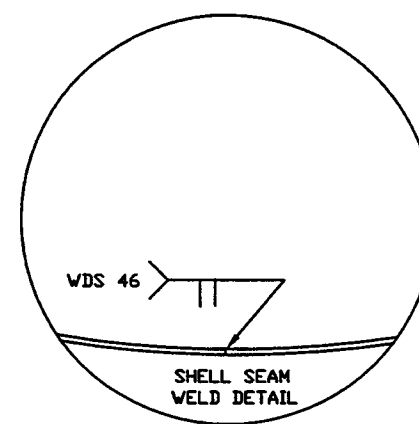
MAKE FROM V049M175-1



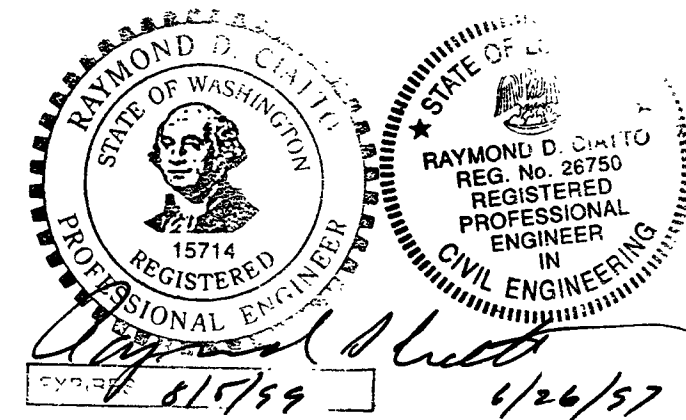
**DETAIL "4"**

QTY: 1

MAKE FROM V049M174-1

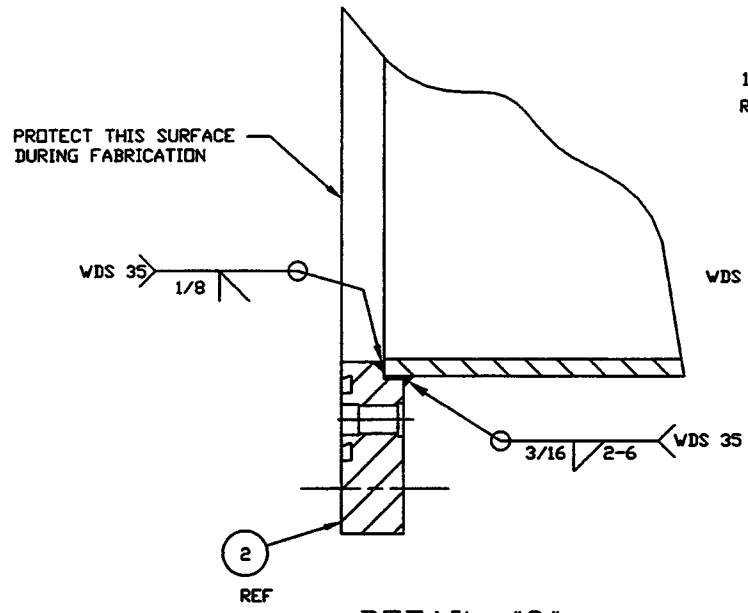


**DETAIL "13"**

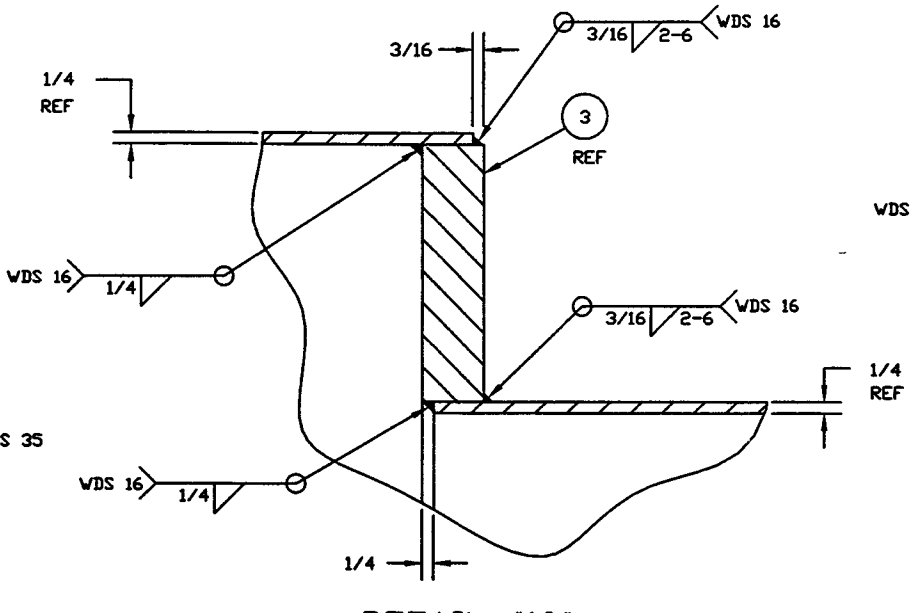


<b>PROCESS SYSTEMS INTERNATIONAL INC.</b> 30 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
<b>ADAPTER A-7A</b> 60.50" I.D. x 72.25" I.D. LIGO VACUUM EQUIPMENT			
CAD FILE V049A47A/44754A	SIZE D	DWG. NO. V049-4-A7A	REV. 3
SCALE AS NOTED	SHEET 2 OF 5		

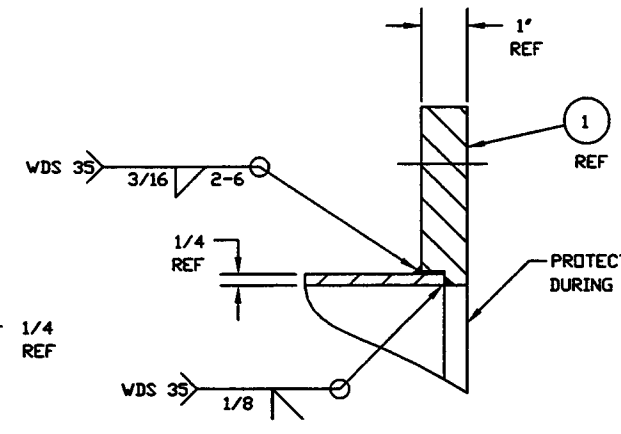
Nov 14, 1986 - 126506



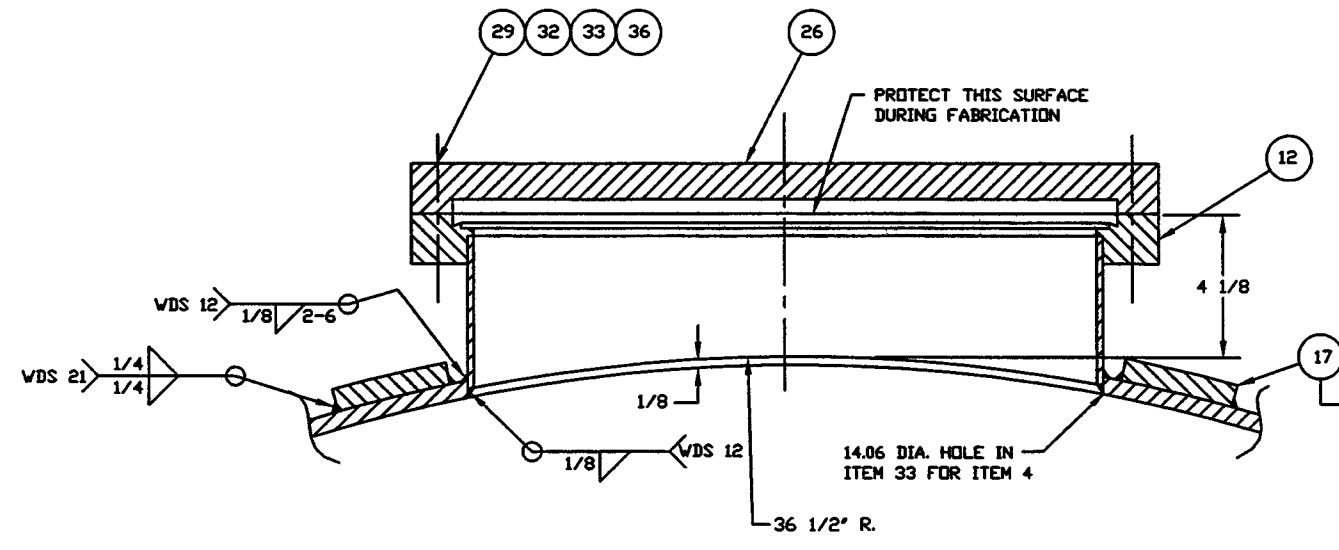
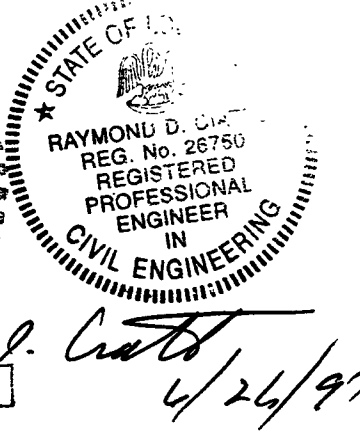
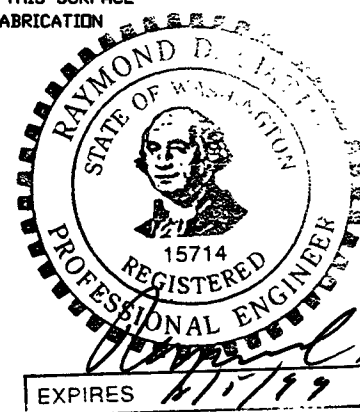
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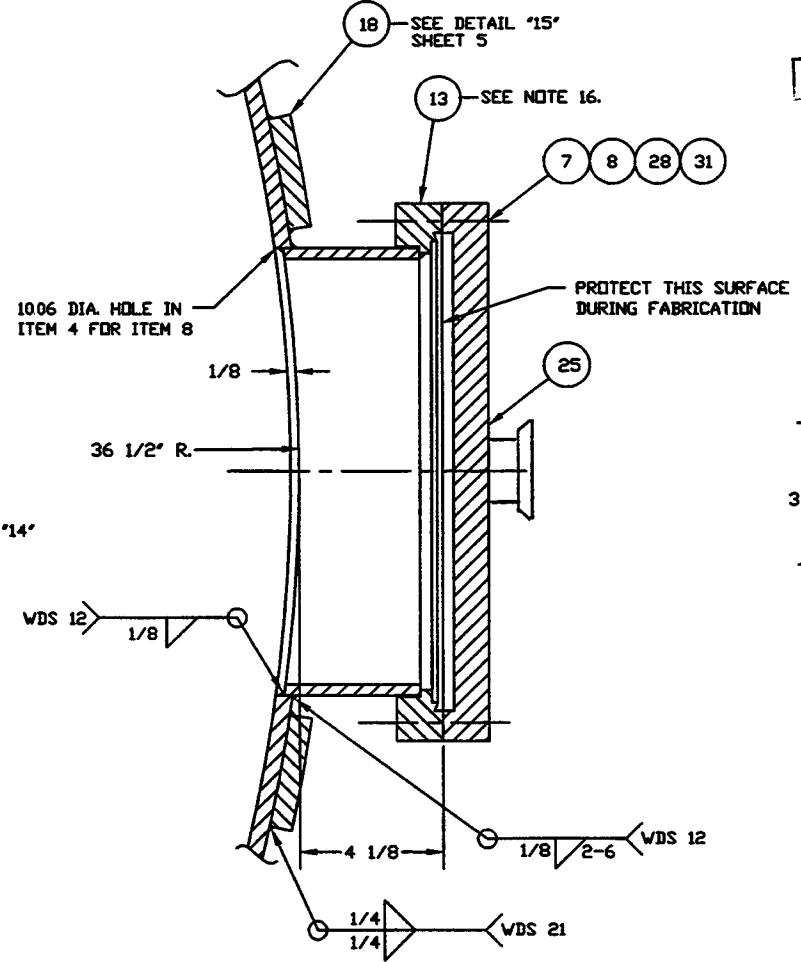
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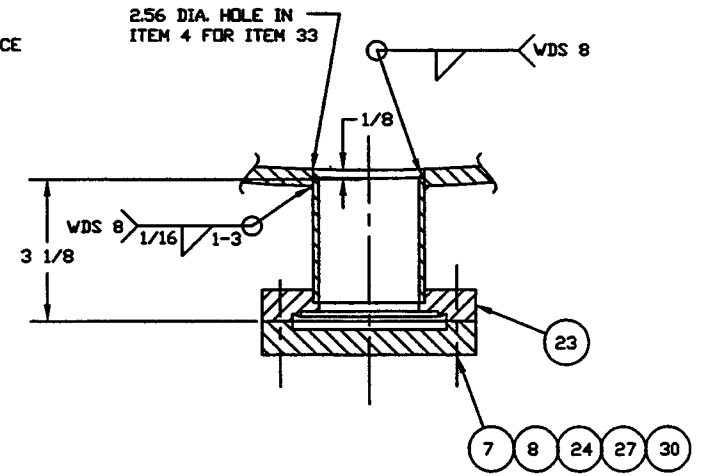
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SECTION "E"- "E"



SECTION "D"- "D"

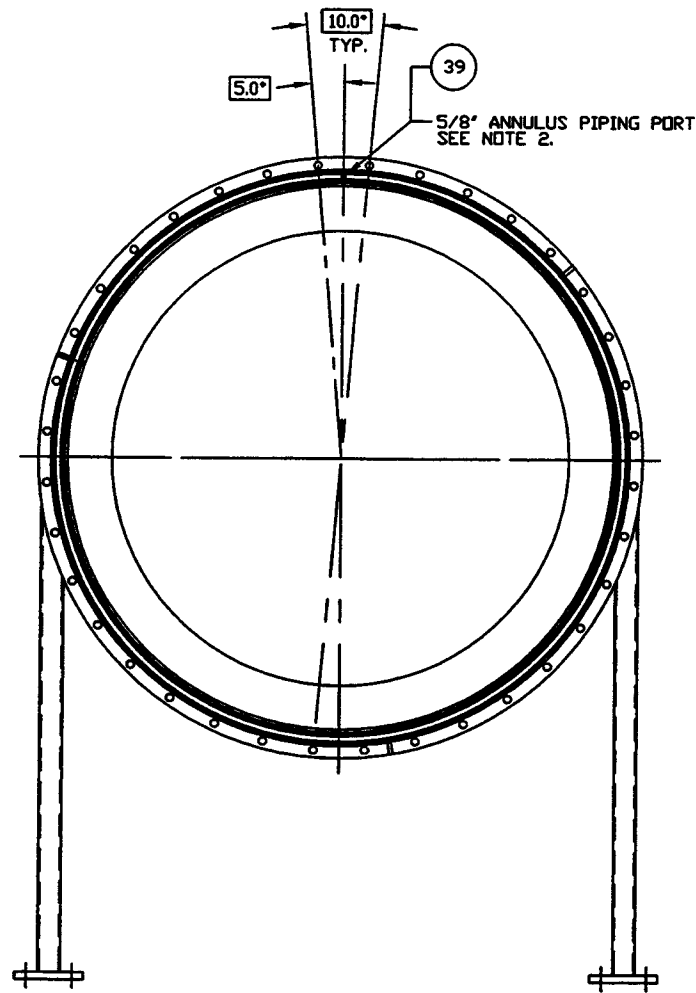


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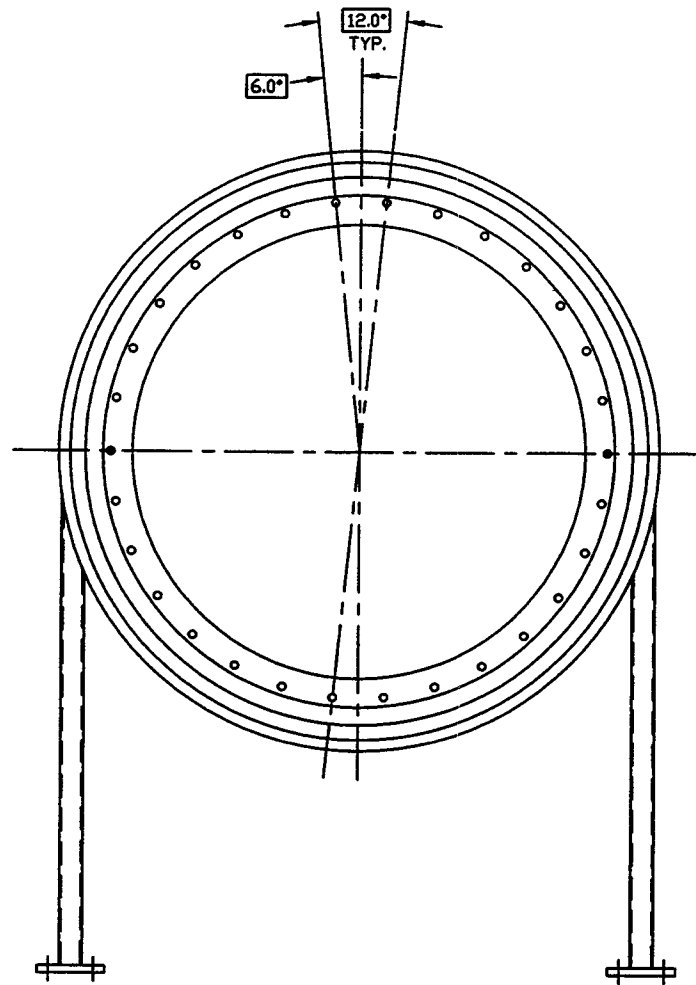
SEE SHEET 1 FOR REVISIONS

<b>PROCESS SYSTEMS INTERNATIONAL INC.</b> 20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
<b>ADAPTER A-7A</b> 72 1/4" X 60 1/2" LIGO VACUUM EQUIPMENT			
CAD FILE	SIZE	DWG. NO.	REV.
VB494A7A/4A7AS3	D	V049-4-A7A	3
SCALE	AS NOTED	SHEET	3 OF 5

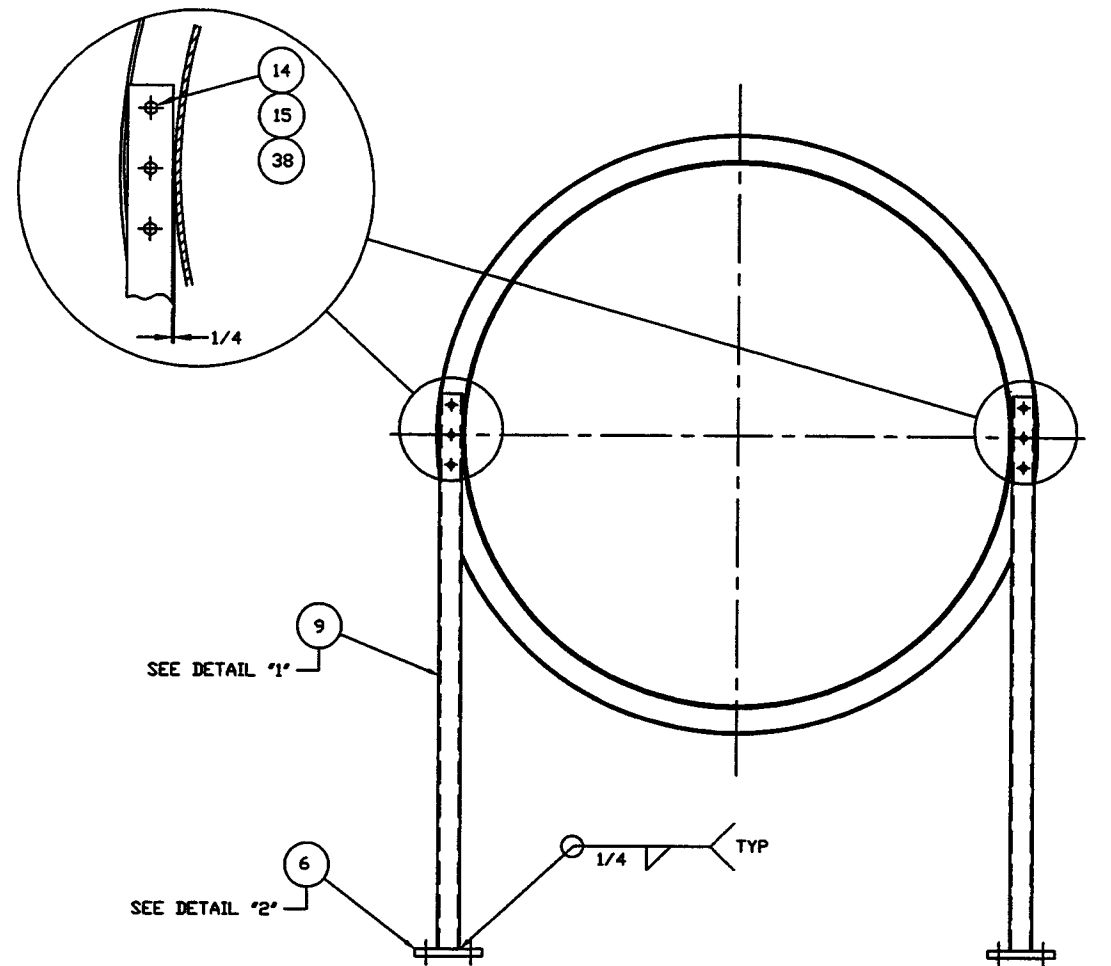
REV 21, 1996 - 07-001E



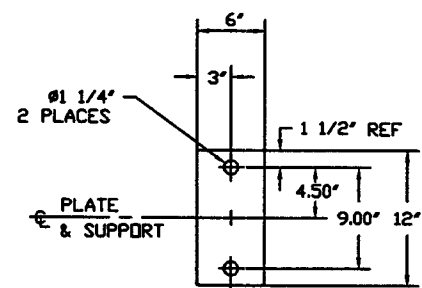
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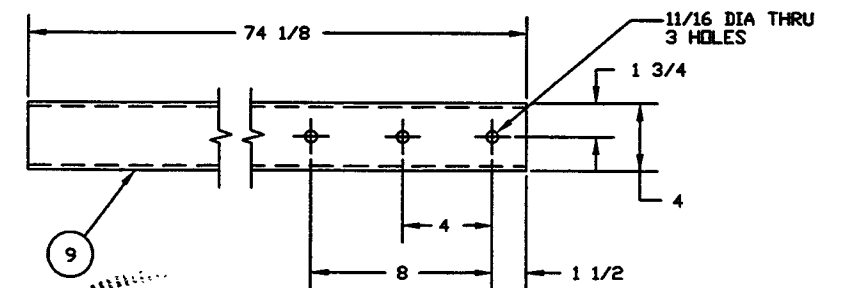
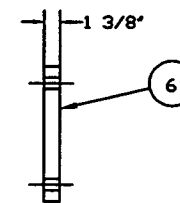
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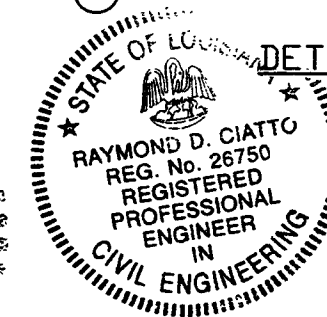
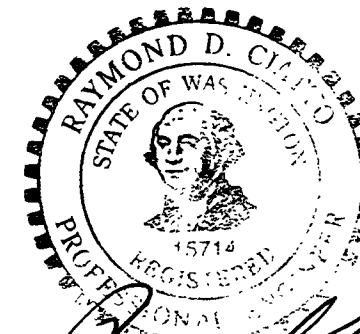
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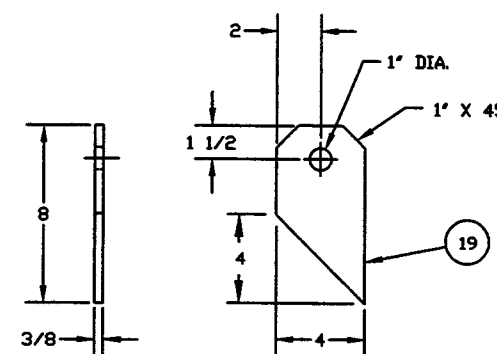
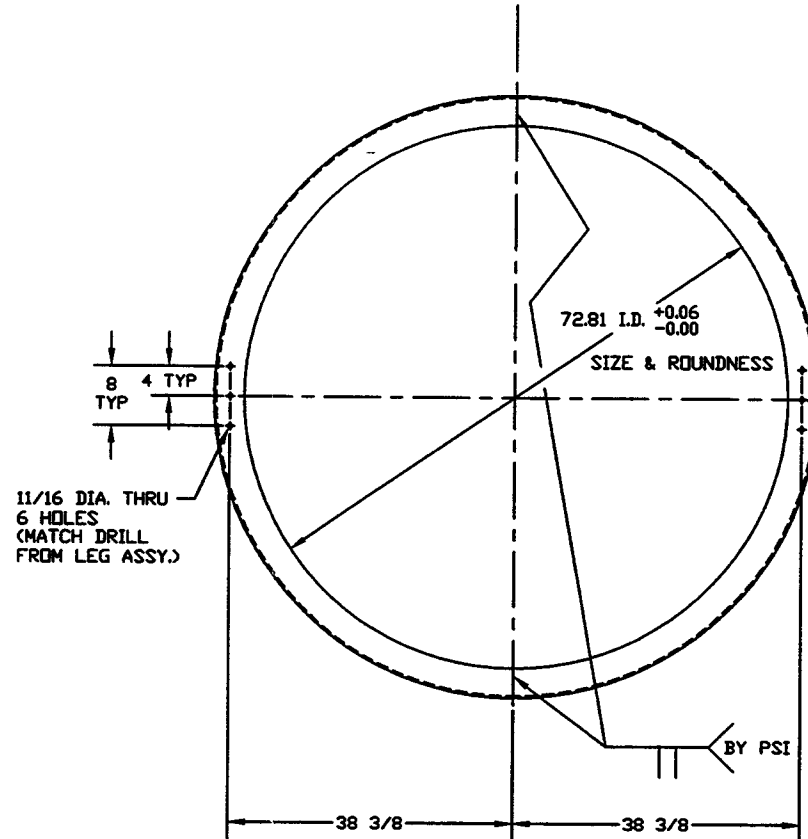
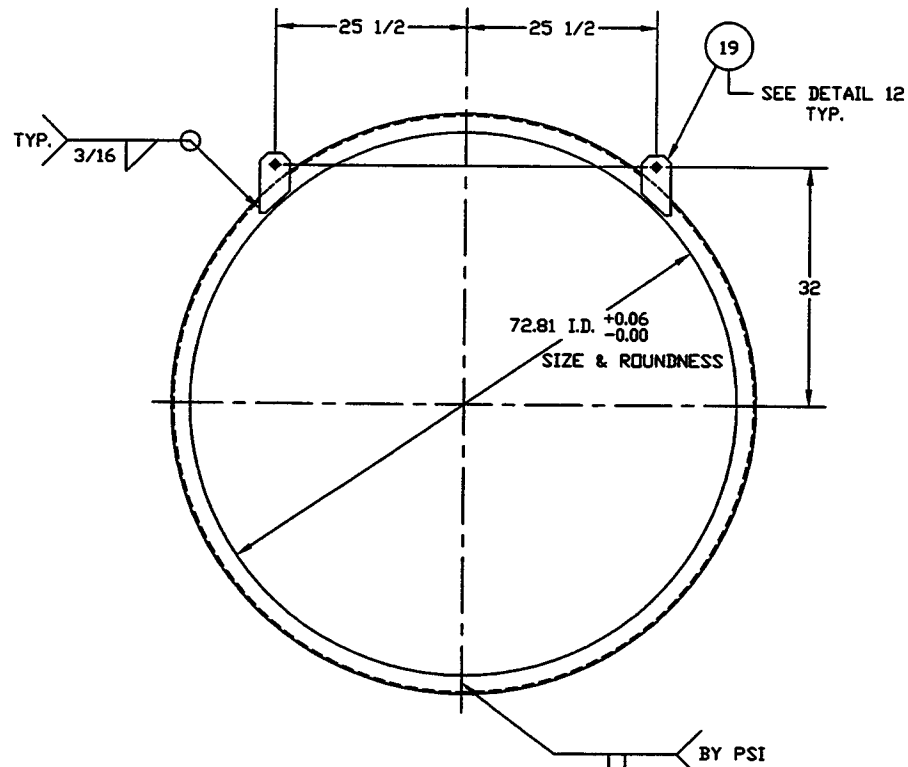
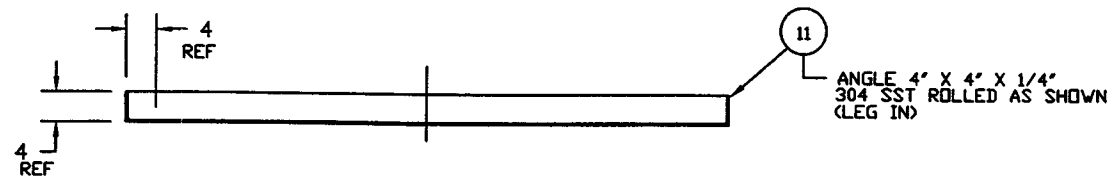


DETAIL "1"  
QTY: 2



*Raymond D. Ciatto*  
5/2/99 6/26/97

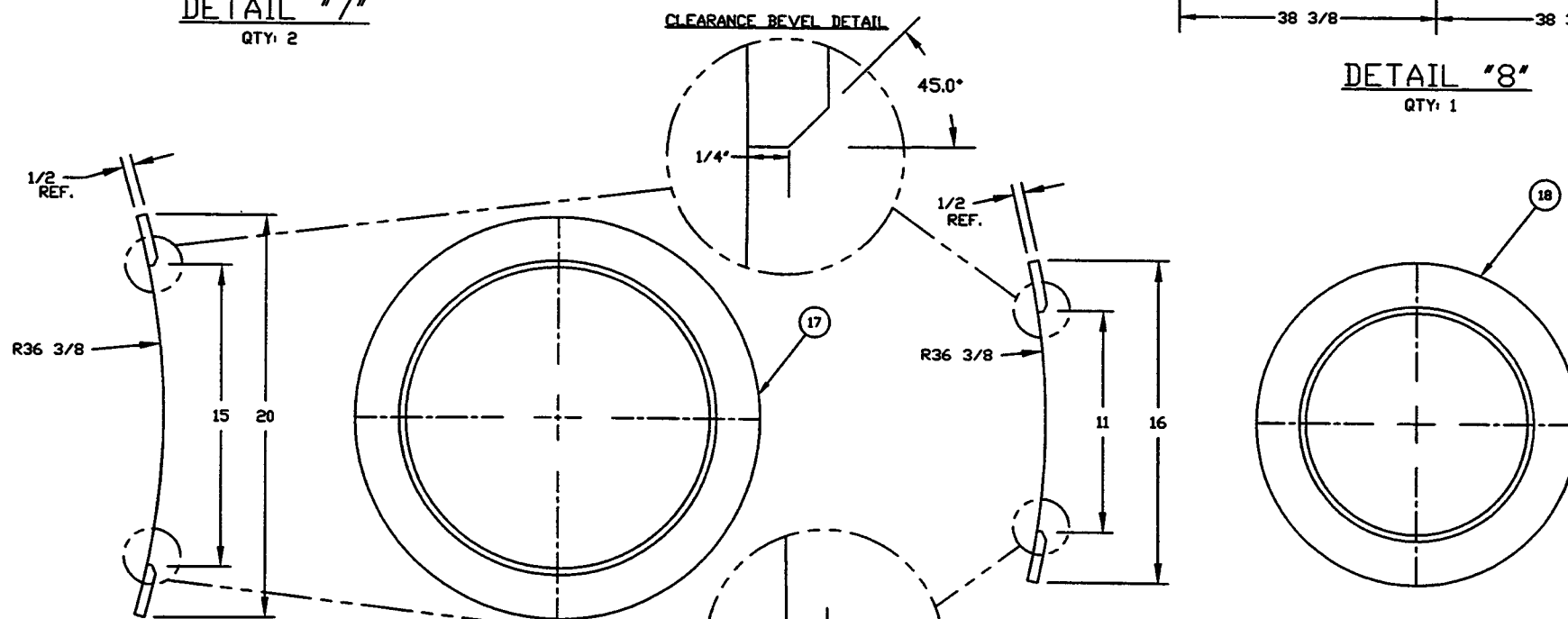
<b>PROCESS SYSTEMS INTERNATIONAL INC.</b> <small>20 WALGAP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA</small>			
<b>ADAPTER A-7A</b> 60.50"ID x 72.25"ID LIQD VACUUM EQUIPMENT			
<small>CAD FILE</small> V0494A7A/4A7AS2	<small>SIZE</small> D	<small>INV. NO.</small> V049-4-A7A	<small>REV.</small> 3
<small>SCALE</small> AS NOTED	<small>SHEET</small> 4 OF 5	<small>NOV 22, 1996 - 156627</small>	



DETAIL "7"  
QTY: 2

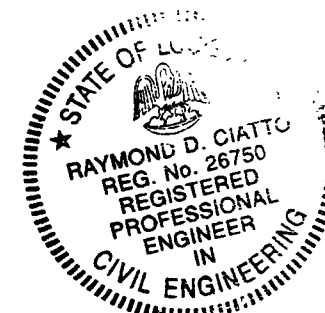
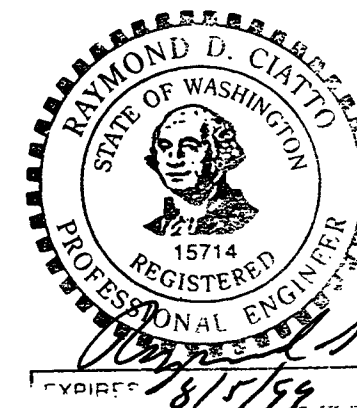
DETAIL "8"  
QTY: 1

DETAIL "12"  
QTY: 4



DETAIL "14"  
QTY: 1

DETAIL "15"  
QTY: 1



*Raymond D. Ciatto*  
8/24/97

<b>PROCESS SYSTEMS INTERNATIONAL INC.</b> 20 WALWIP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
<b>ADAPTER A-7A</b> 60.50"ID x 72.25"ID LIGD VACUUM EQUIPMENT			
CAD FILE V049-4A7A/4A7ASS	SIZE D	REV. NO. V049-4-A7A	REV. 3
SCALE AS NOTED	SHEET 5 OF 5		