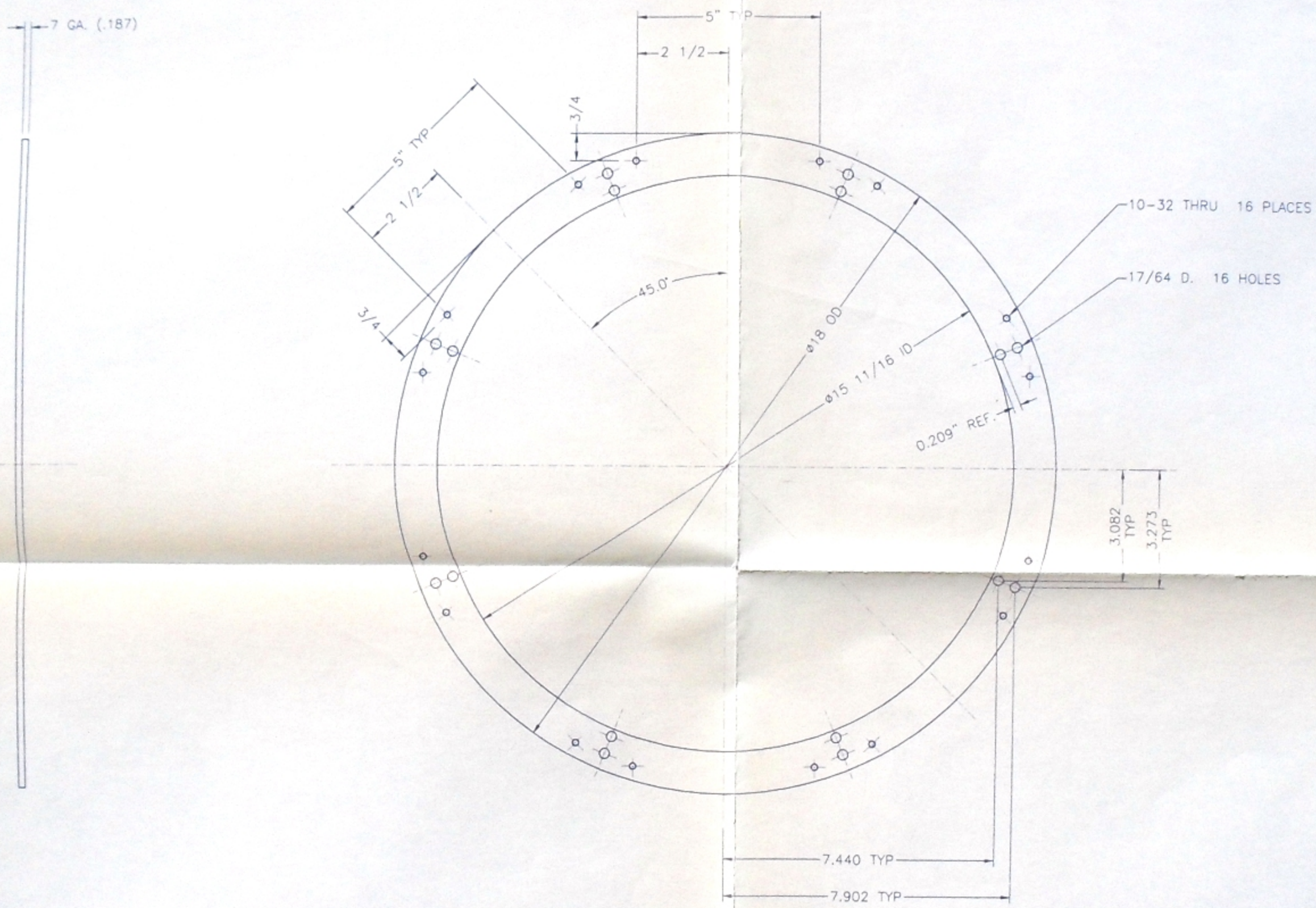


REV	DATE	JOB NO.	INITIALS	CHANGE DESCRIPTION
A				



- NOTES:**
1. ALL SURFACES MACHINED 125 OR AS NOTED, NO. 4 POLISHED OR 2B. NO SCRATCHES PERMITTED.
 2. ELECTROPOLISH
 3. TO FLAT WITHIN .015"

10		
9		
8		
7		
6		
5		
4		
3		
2		
1	1	SHT. 7 GA. X 18" OD X 15 11/16 ID 304SS
ITEM	QTY	DESCRIPTION

TOLERANCES
(UNLESS OTHERWISE INDICATED)

MACHINING

FRACTIONAL	±1/64
TWO PLACE DECIMAL	±0.015
THREE PLACE DECIMAL	±0.005

WELDING AND FABRICATION

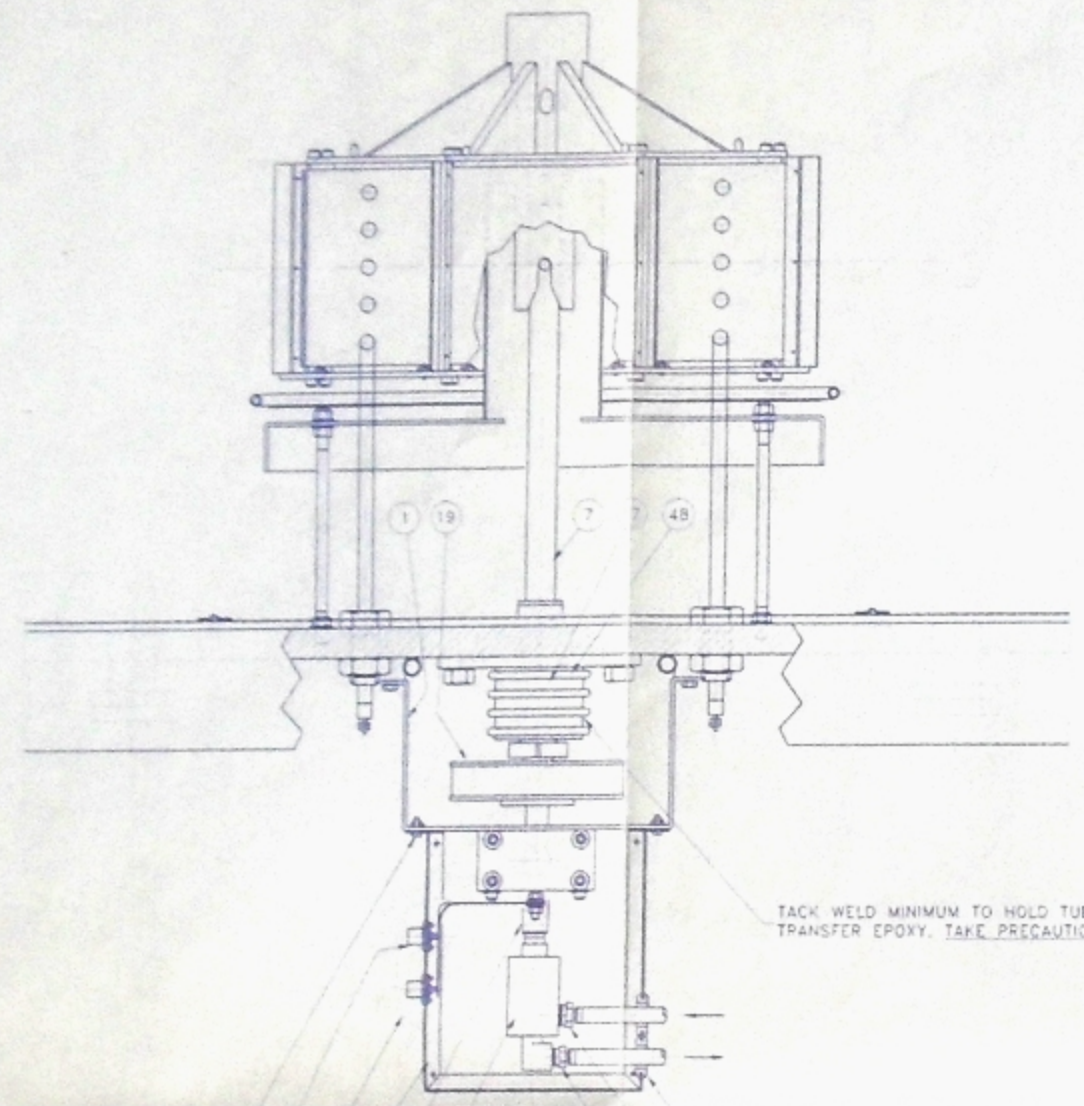
UNDER 12"	±1/32
12" TO 36"	±1/16
ABOVE 36"	±1/8
ANGULAR	±1/2"

T-M VACUUM PRODUCTS, INC.
 630 S. WARRINGTON AVENUE, CINNAMINSON, NJ 08077 USA
 PHONE: 856-829-2000 FAX: 856-829-0990

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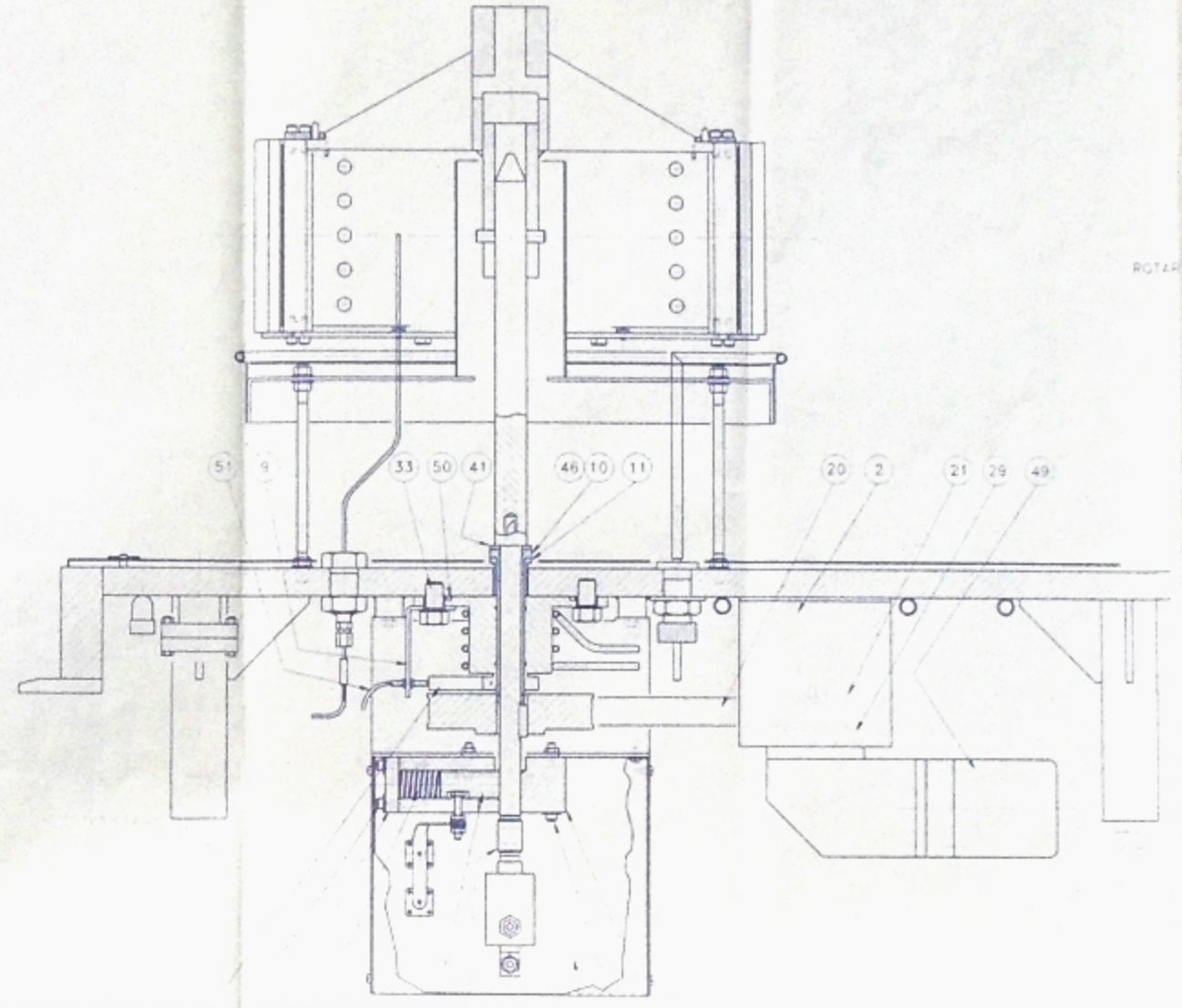
TITLE: BOTTOM RING

DRAWN BY: KMC DATE: 8/1/91 SCALE: 3/8
 CHECKED BY: [Signature] DATE: 3/27/91
 APPROVED BY: [Signature] DATE: 3/27/91 ORIG JOB NO. JL-605
 DRAWING NO. C-7299 REV. 1

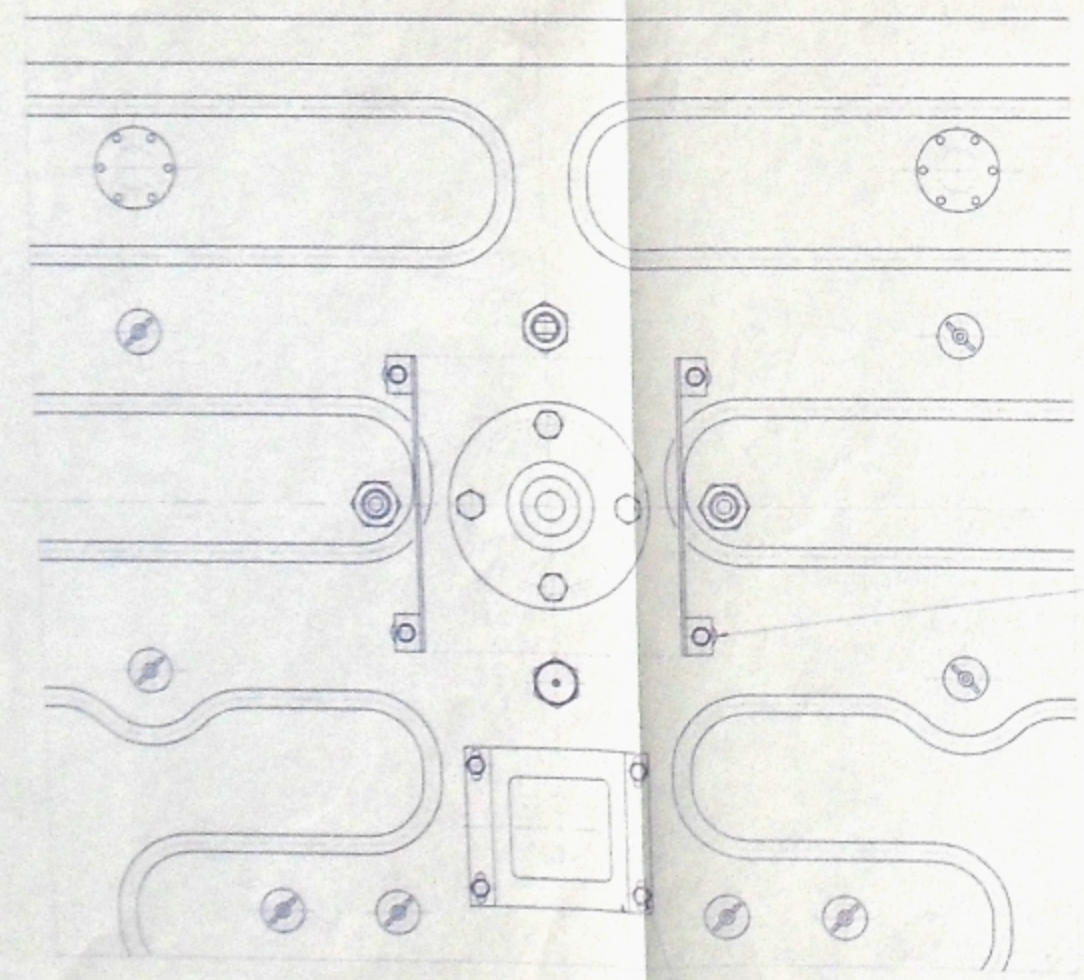
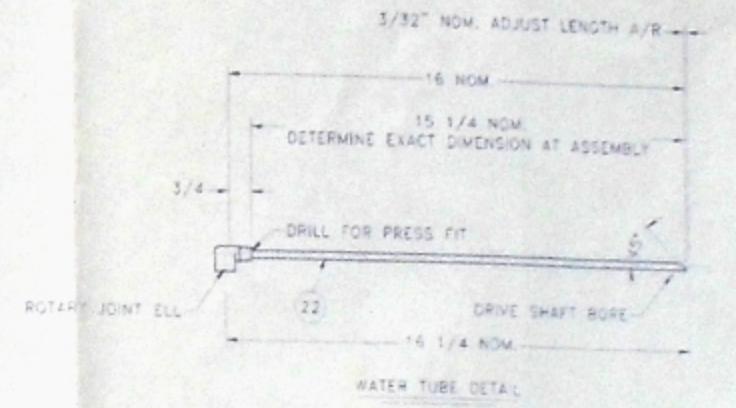


TACK WELD MINIMUM TO HOLD TUBING AND FILL WITH HEAT TRANSFER EPOXY. TAKE PRECAUTIONS TO NOT OVERHEAT SEALS

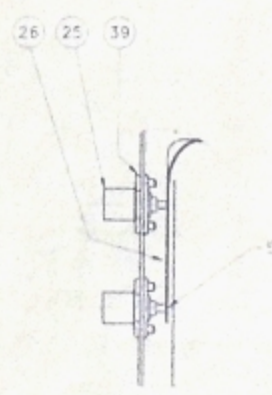
SEE CONNECTOR DETAIL



WELD TO ITEM 17 SHAFT COLLAR



1/8 WELD AT ASSEMBLY



CONNECTOR DETAIL
HALF SCALE

NOTE:
1. PARTS MARKET REF ARE REUSED FROM D-5251 1-1685.
2. LUBE BRUSH WITH ELECTRICALLY CONDUCTIVE GREASE ITEM 54.

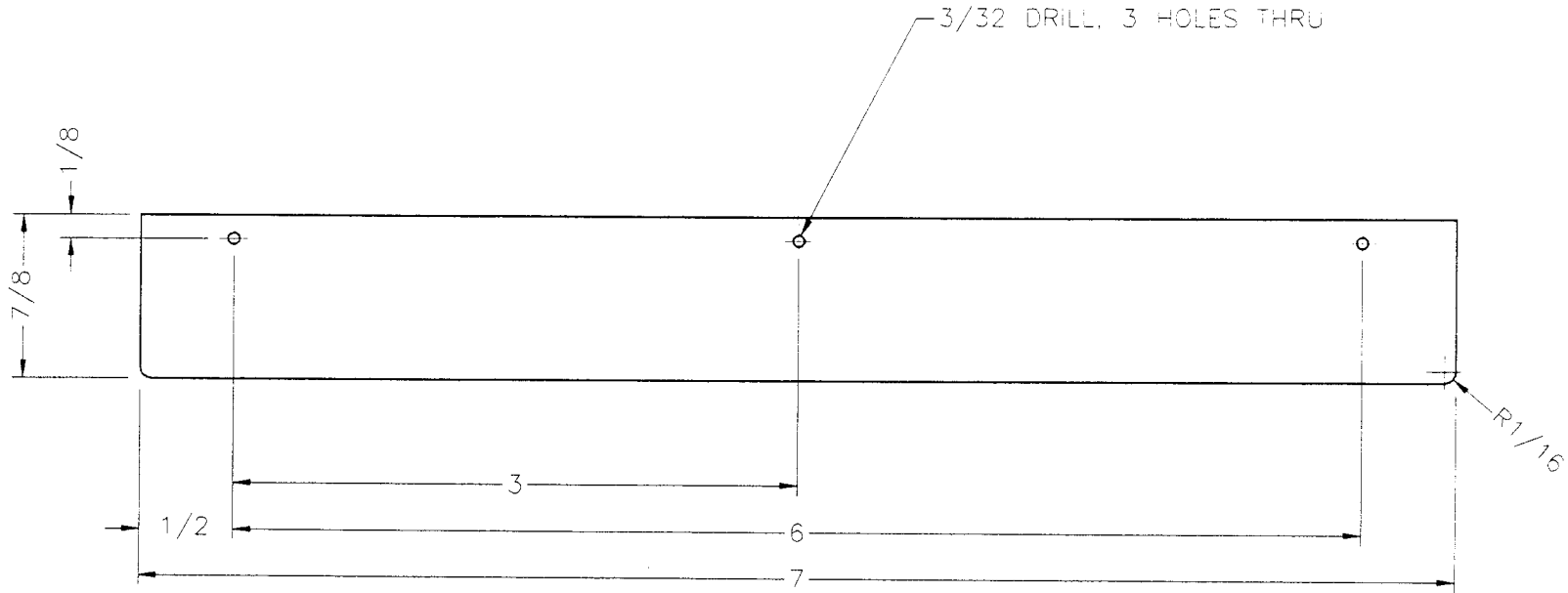
63	
62	
61	
60	
59	
58	
57	
56	
55	
54	1 SILVER CONDUCTIVE GREASE MMC 1219K57 1/2 OZ
53	
52	
51	1REF PROXIMITY SWITCH CH# ESTEALS 1115P
50	1REF O RING #244 VITON
49	1REF MOTOR C/D PAC. SC. N31 THOMPSON NTR34-30
48	1 TUBING 1/4" OD X .028 W. X 4 FT. - SS
47	
46	2 "O"-RING #C18, 1/16 W X 3/4 ID, VITON
45	
44	1REF HOSE BARR 3/8" MP X 1/4" ID HOSE BRASS
43	1REF HOSE BARR 1/2" MP X 1/4" ID HOSE BRASS
42	2 GROMMET MMC 9307K1
41	7 WASHER MMC 919504036 1/8 X 1 1/2 D. SS
40	
39	8 PAN HD SCREW 6-32 X 1/4 STL
38	
37	4 PAN HD SCREW 10-32 X 1/2 W/ L WASHER, NUT STL
36	
35	
34	4REF HEX BOLT 5/16-18 X 3/4 W/ F WASHER SS
33	4REF HEX BOLT 5/8-11 X 1" SS
32	
31	
30	
29	4REF SOC HD CAP SCREW 10-32 X 3/4 W/ L WASHER, NUT
28	4 SOC HD CAP SCREW 1/4-20 X 2 1/2, FWSR, LWSR SS
27	4 SOC HD CAP SCREW 1/4-20 X 1 1/2, FWSR, LWSR SS
26	1 STRAP, ADVANCED ENERGY SILVER CLAD COPPER .022 X 1/2" X 8" PROV.
25	2 COAXIAL CONNECTOR KINGS #UG-568/U
24	1 SPRING LEE LC-083L-6-55
23	1 TEFLON COUPLING MMC 45375K184
22	1 DELRIN TUBE MMC 8827K51
21	1REF PULLEY BROWNING 16L 100, 1/2" BORE
20	1REF GEAR BELT BROWNING 345L 100
19	1 PULLEY LIKE BROWNING 48LH 100, 1" BORE EXCEPT CUSTOM MADE FROM 302/304SS MODIFIED
18	1REF ROTARY JOINT MMC 5275K171 RH
17	1REF SHAFT SEAL RIDAKU 10C-8926-B
16	
15	
14	
13	
12	
11	1 SPACER DWG. A-8044
10	1 SHAFT SEAL TUBE DWG. A-6042 MODIFIED
9	1REF SWITCH BRACKET DWG. A-5961 MODIFIED
8	1REF SWITCH TARGET TAKE FROM A-5962
7	1 CENTER SHAFT DWG. B-7410 MODIFIED
6	1 COVER ASSEMBLY DWG. C-7446
5	1 BRUSH DWG. A-5814
4	1 BRUSH CAP DWG. A-5777
3	1 BRUSH HOUSING DWG. A-6043
2	1REF MOTOR BRACKET DWG. B-7257
1	1 SUPPORT BRACKET DWG. B-7414

ITEM QTY DESCRIPTION MADE FROM D-5251
T-M VACUUM PRODUCTS, INC.
 630 S. WARRINGTON AVENUE, CINCINNATI, OH 45202 USA
 PHONE: 513-828-2000 FAX: 513-828-0900
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PLOT: .015/.008/.004



REV	DATE	JOB NO.	INITIALS	CHANGE DESCRIPTION
A				



NOTES:

1. ALL SURFACES MACHINED 125 OR AS NOTED, NO. 4 POLISHED OR 2B. NO SCRATCHES PERMITTED.
2. ELECTROPOLISH

ITEM	QTY	DESCRIPTION	MADE FROM
3			
2			
1	1	SHT. 16 GA. X 7/8 X 7"	304SS #4 POL.

TOLERANCES
(UNLESS OTHERWISE INDICATED)

MACHINING

FRACTIONAL	±1/64
TWO PLACE DECIMAL	±0.015
THREE PLACE DECIMAL	±0.005

WELDING AND FABRICATION

UNDER 12"	±1/32
12" TO 36"	±1/16
ABOVE 36"	±1/8
ANGULAR	±1/2°



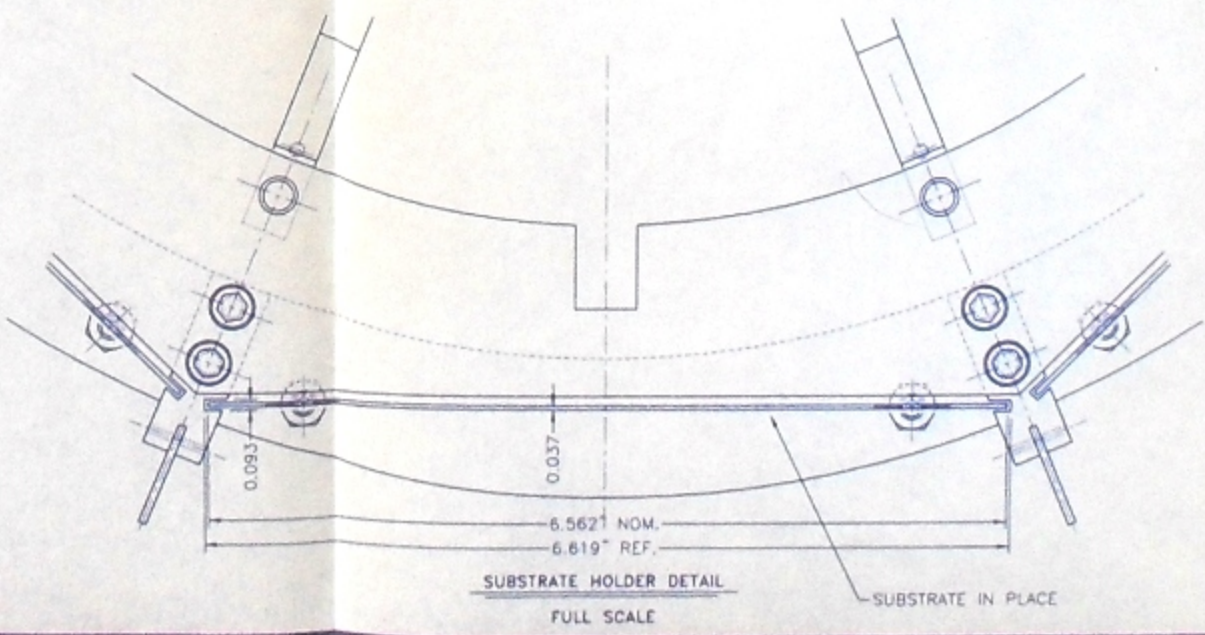
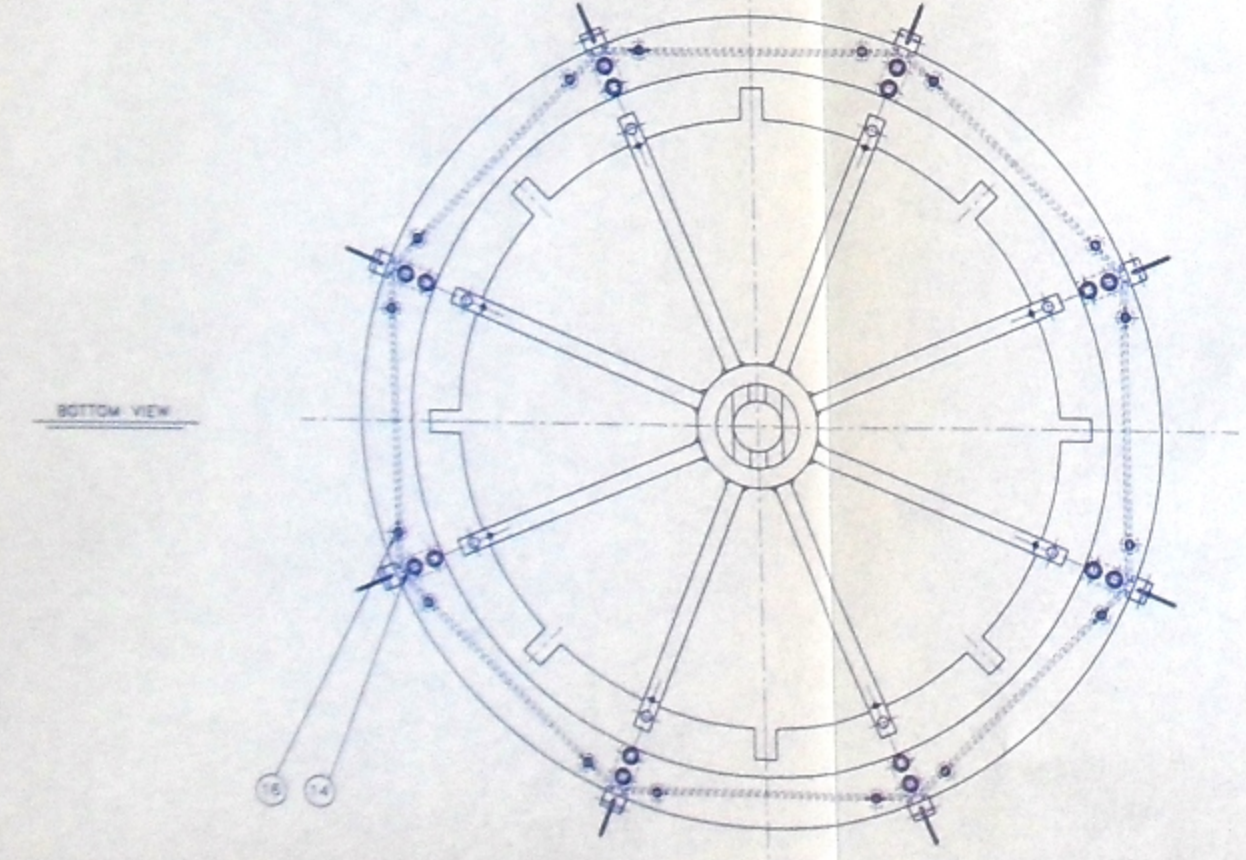
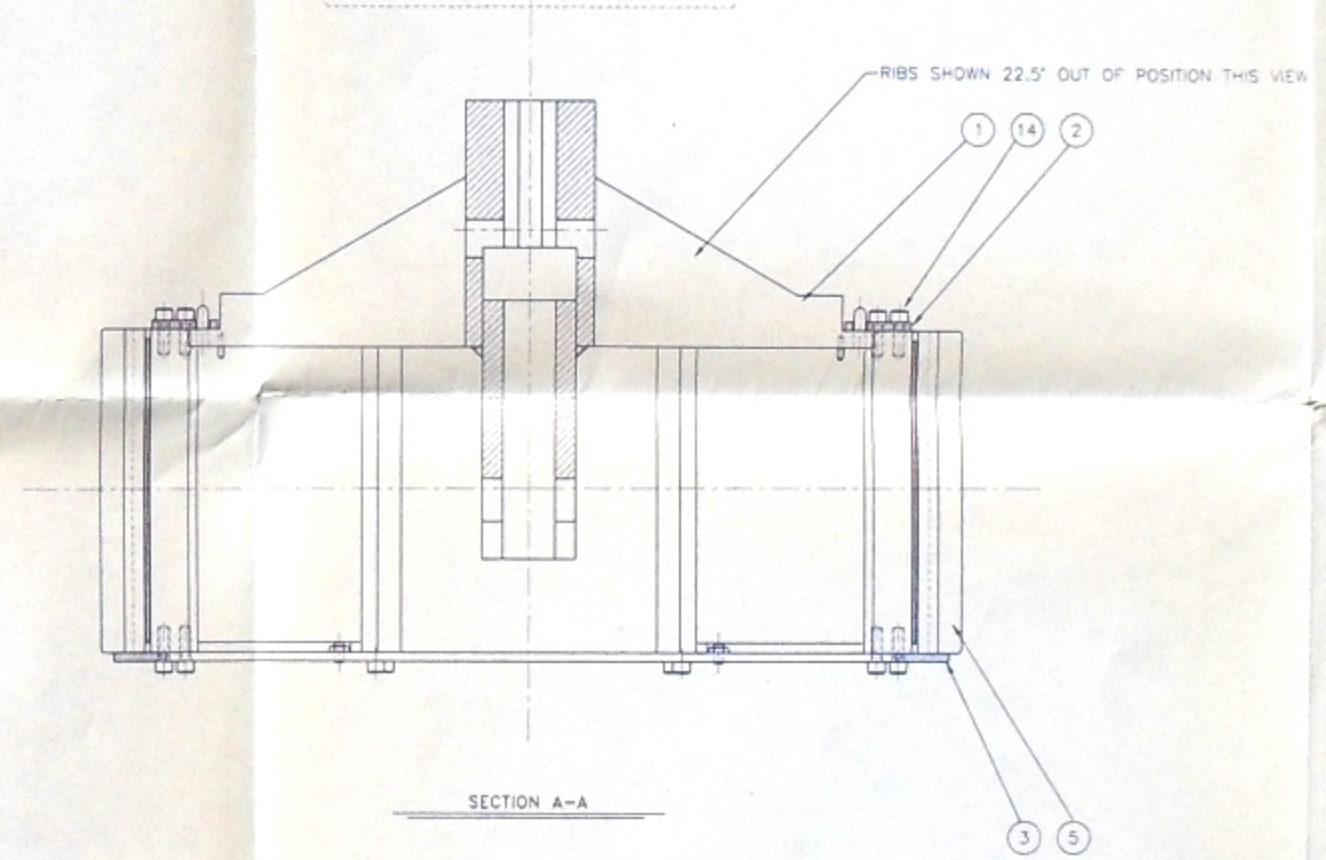
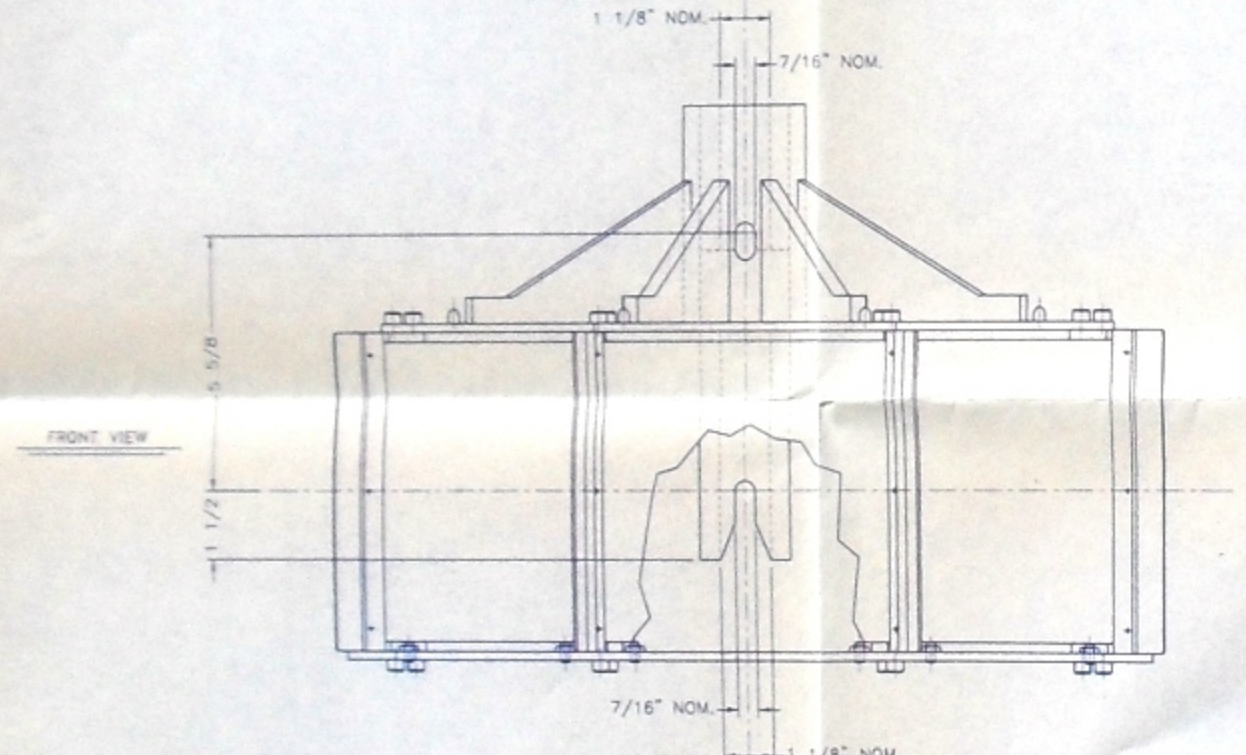
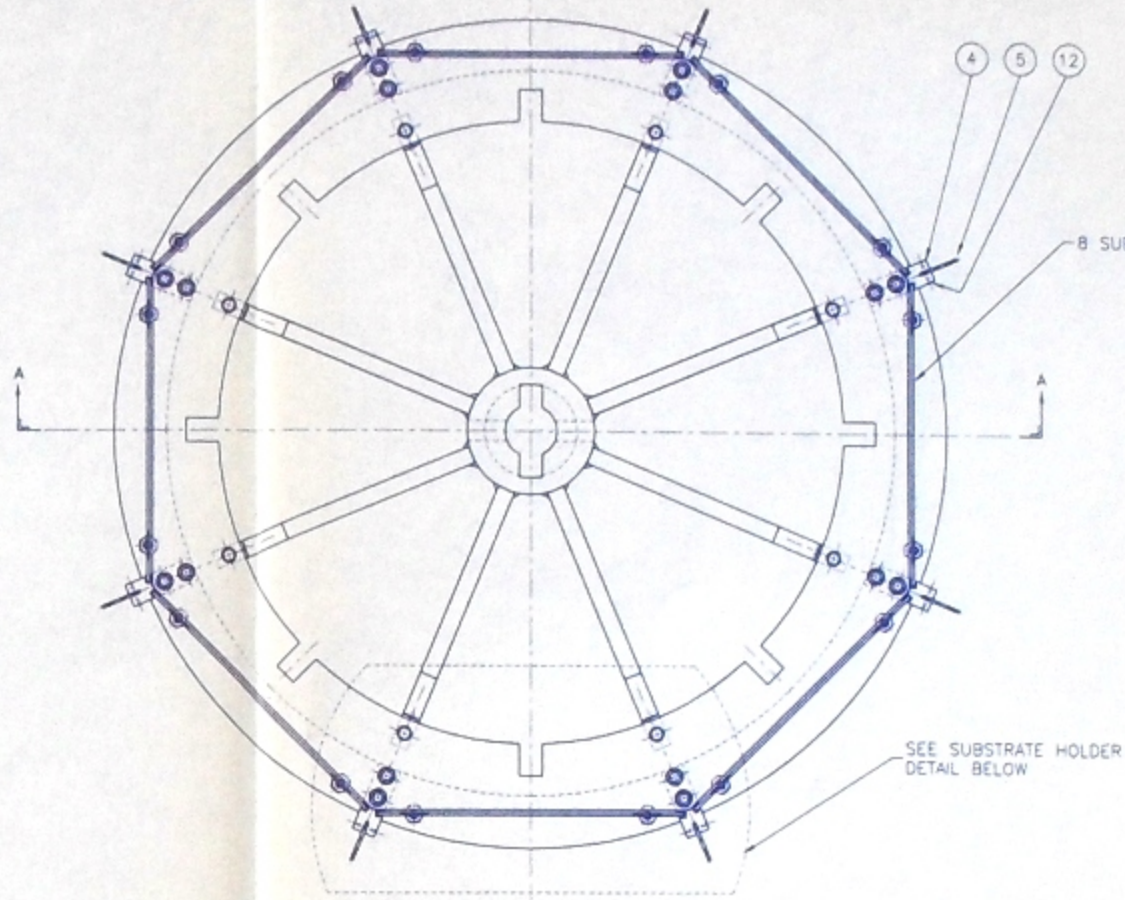
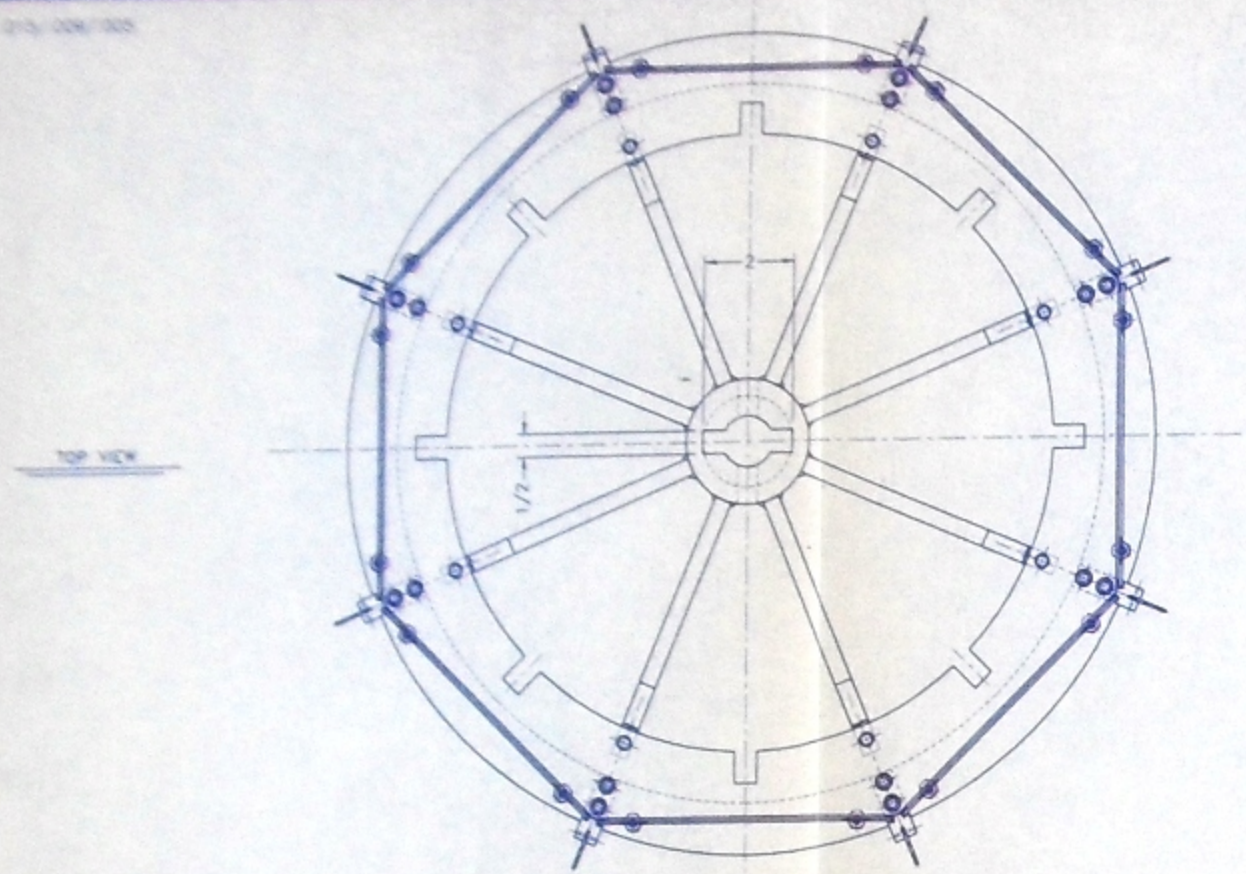
T-M VACUUM PRODUCTS, INC.
 630 S. WARRINGTON AVENUE, CINNAMINSON, NJ 08077 USA
 PHONE: 856-829-2000 FAX: 856-829-0990

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TITLE: SUBSTRATE DIVIDER

DRAWN BY: KMC DATE: 3/2/01 SCALE: FULL
 CHECKED BY: [Signature] DATE: 3/23/01
 APPROVED BY: [Signature] DATE: 3/27/01 ORIG. JOB NO. 1L-1685

DRAWING NO. A-5959 REV. /



NOTES:
 1. WEIGHT: 41.5 LB. TOTAL EST. LOADED, 23 LB. FOR BOTTOM FIXTURE ONLY.

26		
25		
24		
23		
22		
21		
20		
19		
18		
17		
16	16	SOC HD CAP SCREW 10-32 X 1/2 W/ NUT SS
15		
14	32	SOC HD CAP SCREW 1/4-20 X 3/4 SS
13		
12	24	ROLL PIN 1/16 X 1/2 SS
11		
10		
9		
8		
7		
6		
5	8	SUBSTRATE DIVIDER DWG. A-5959
4	8	SUBSTRATE HOLDER DWG. B-7234
3	1	BOTTOM RING DWG. C-7299
2	1	TOP RING DWG. C-7298
1	1	FIXTURE HUB DWG. C-7296

ITEM QTY DESCRIPTION MADE FROM

T-M VACUUM PRODUCTS, INC.
 630 S. WARRINGTON AVENUE, CINNAMINSON, NJ 08077 USA
 PHONE: 856-829-2000 FAX: 856-829-0990

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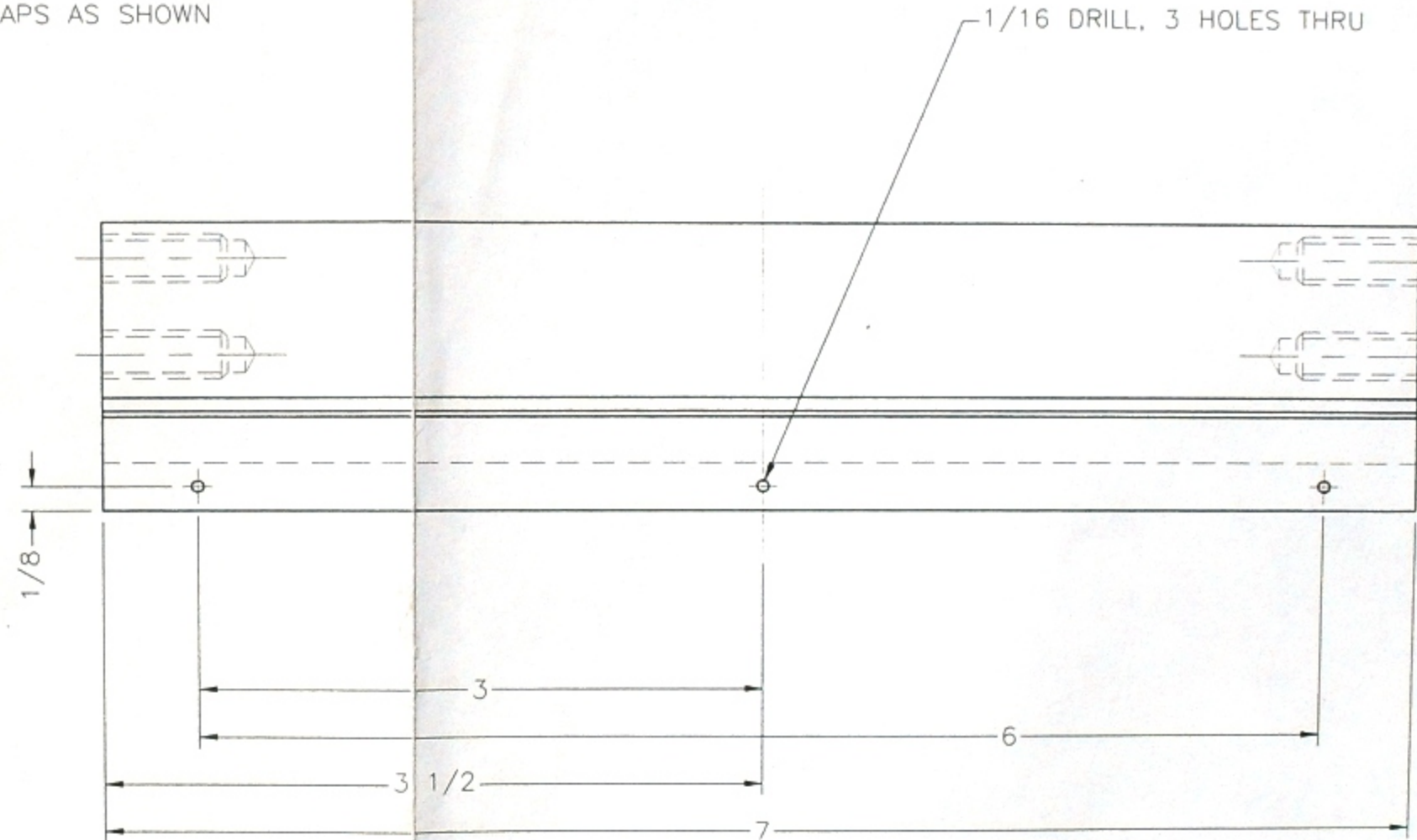
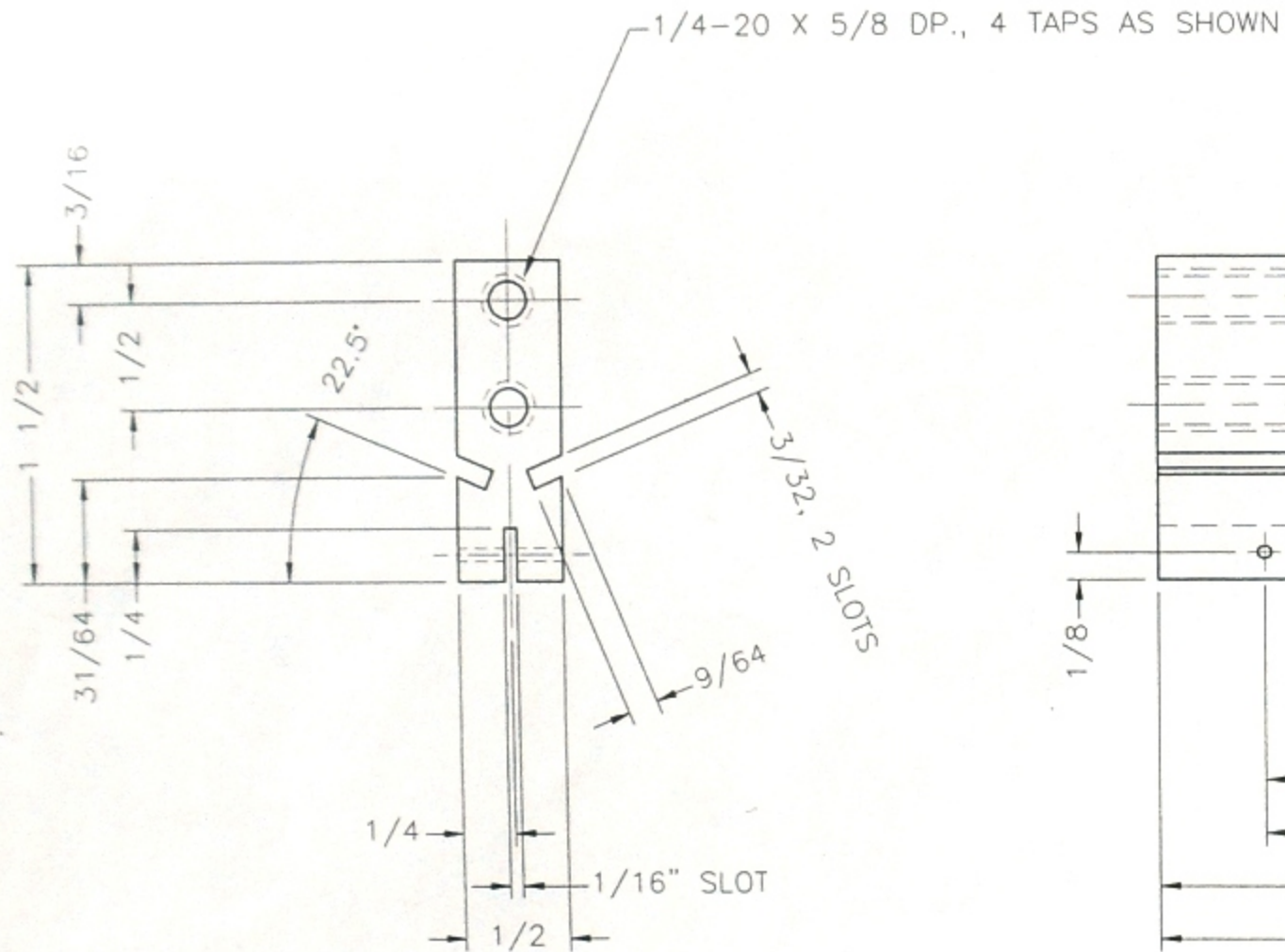
TITLE: 8 SUBSTRATE FIXTURE

DRAWN BY: KMC DATE: 2/20/01 SCALE: 3/8"
 CHECKED BY: DATE: 2/23/01
 APPROVED BY: DATE: 2/23/01 ORG. JOB NO. 3-1000

DRAWING NO. D-5693-A REV. A



REV	DATE	JOB NO.	INITIALS	CHANGE DESCRIPTION
A				



NOTES:

1. ALL SURFACES MACHINED 125 OR AS NOTED, NO. 4 POLISHED OR 2B. NO SCRATCHES PERMITTED.
2. ELECTROPOLISH

ITEM	QTY	DESCRIPTION	MADE FROM
4			
3			
2			
1	1	BAR 1/2 X 1 1/2 X 7 1/16	304SS

TOLERANCES
(UNLESS OTHERWISE INDICATED)

MACHINING

FRACTIONAL	±1/64
TWO PLACE DECIMAL	±0.015
THREE PLACE DECIMAL	±0.005

WELDING AND FABRICATION

UNDER 12"	±1/32
12" TO 36"	±1/16
ABOVE 36"	±1/8
ANGULAR	±1/2°

T-M VACUUM PRODUCTS, INC.
630 S. WARRINGTON AVENUE, CINNAMINSON, NJ 08077 USA
PHONE: 856-829-2000 FAX: 856-829-0990

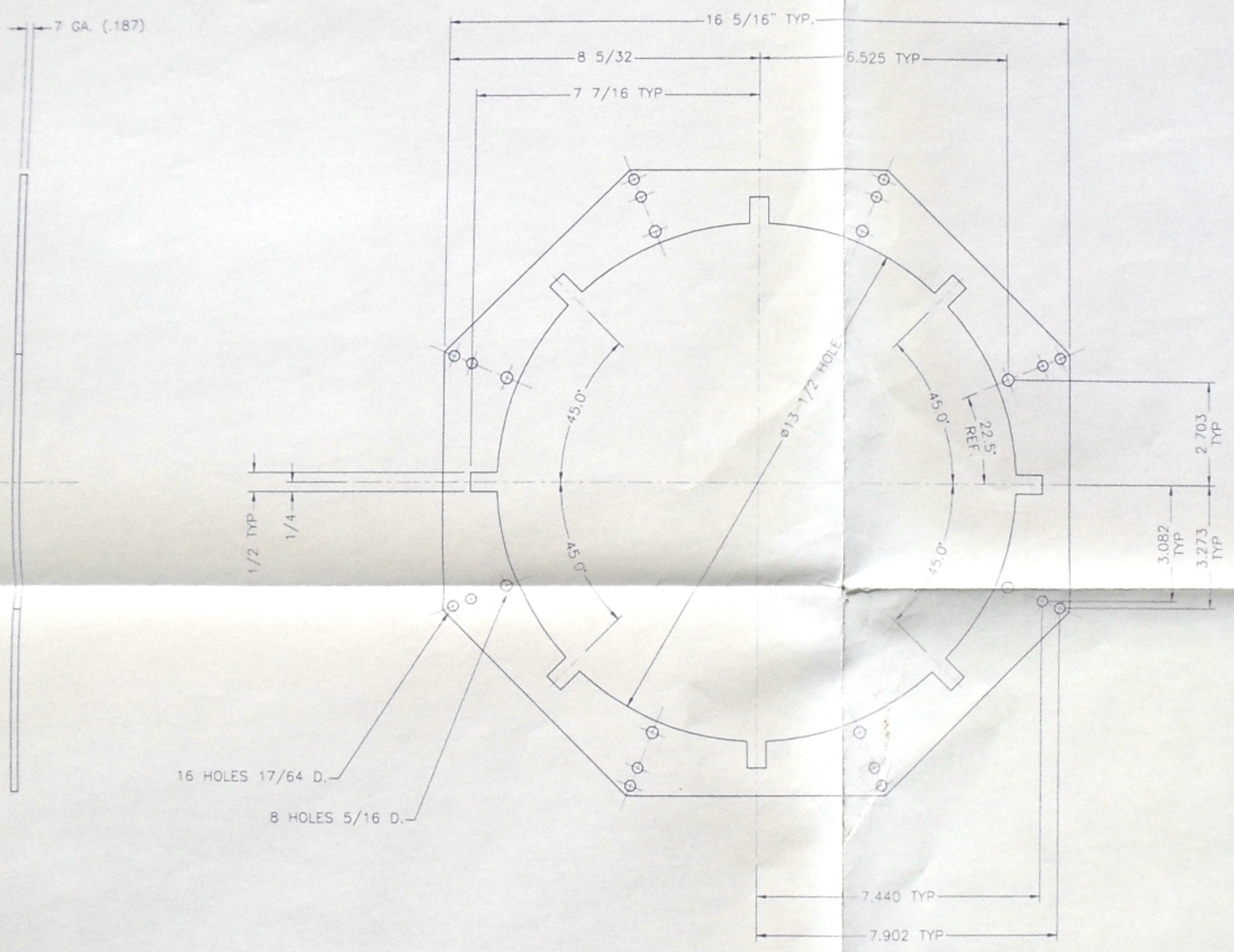
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TITLE: SUBSTRATE HOLDER

DRAWN BY: KMC DATE: 3/2/01 SCALE: FULL
 CHECKED BY: [Signature] DATE: 3/23/01
 APPROVED BY: [Signature] DATE: 3/27/01 ORIG. JOB NO. IL-1685

DRAWING NO. B-7234 REV. 1

REV	DATE	JOB NO.	INITIALS	CHANGE DESCRIPTION
A				



16 HOLES 17/64 D.
8 HOLES 5/16 D.

- NOTES:
1. ALL SURFACES MACHINED 125 OR AS NOTED, NO. 4 POLISHED OR 2B. NO SCRATCHES PERMITTED.
2. ELECTROPOLISH
3. TO FLAT WITHIN .015"

10		
9		
8		
7		
6		
5		
4		
3		
2		
1	1	SHT. 7 GA. X 16 5/16 X 16 5/16 IRREG. SHAPE 304SS
ITEM	QTY	DESCRIPTION

TOLERANCES (UNLESS OTHERWISE INDICATED)	
MACHINING	
FRACTIONAL	±1/64
TWO PLACE DECIMAL	±0.015
THREE PLACE DECIMAL	±0.005
WELDING AND FABRICATION	
UNDER 12"	±1/32
12" TO 36"	±1/16
ABOVE 36"	±1/8
ANGULAR	±1/2

T-M VACUUM PRODUCTS, INC.
630 S. WARRINGTON AVENUE, CINNAMINSON, NJ 08077 USA
PHONE: 856-829-2000 FAX: 856-829-0990

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TITLE: TOP RING

DRAWN BY: KMC DATE: 3/1/01 SCALE: 3/8
CHECKED BY: DATE: 3/23/01
APPROVED BY: DATE: 3/27/01 ORG. JOB NO. 3L-406

DRAWING NO. C-7298 REV 1