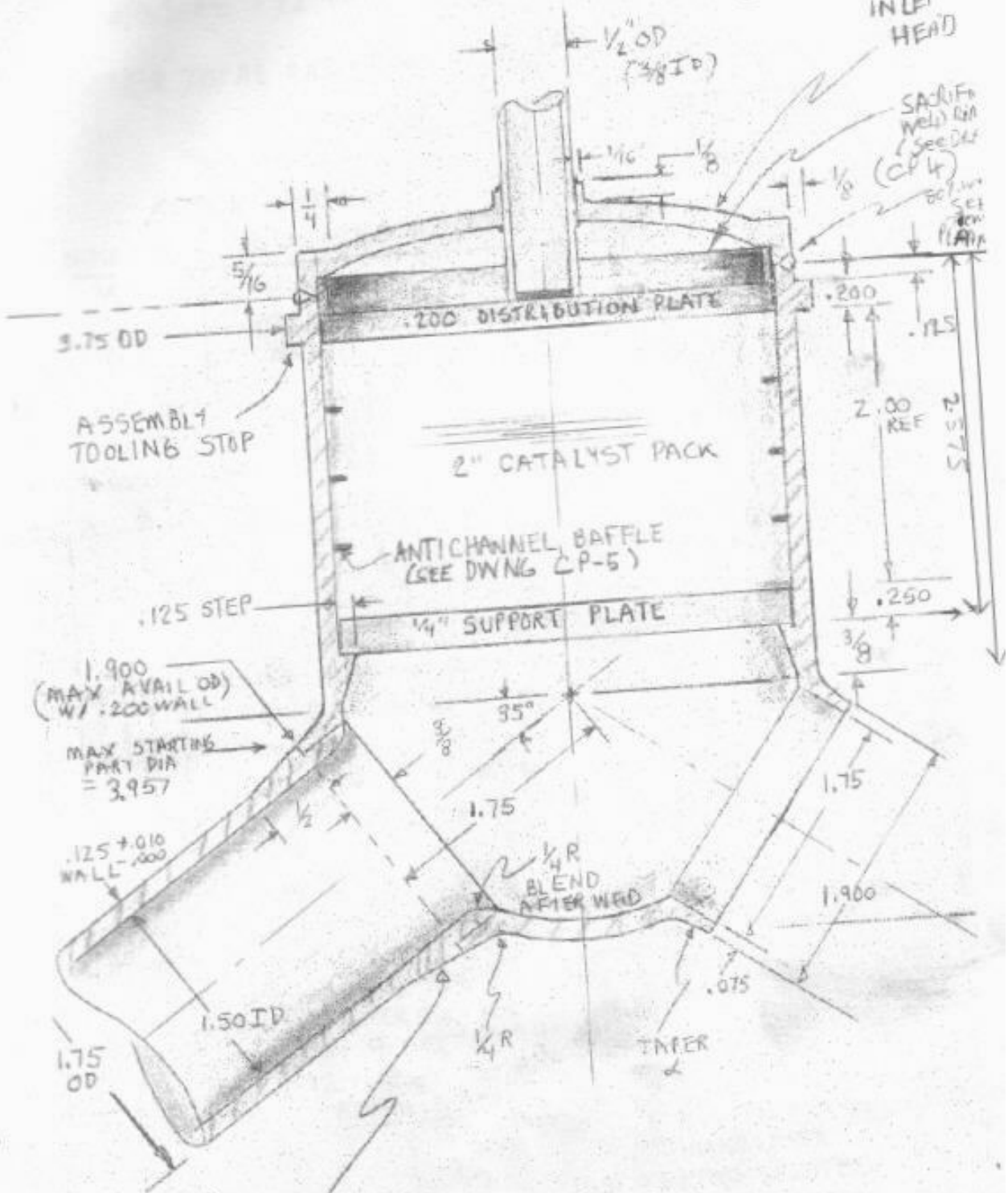


①

CATALYST PACK FULL SIZE, 34755 CP①

DOUBLE
FEB
DR

INLET
HEAD



ASSEMBLY
TOOLING STOP

1.900
(MAX AVAIL OD)
W/ .200 WALL

MAX STARTING
PART DIA
= 3.957

TAPER ANGLE

$$\frac{(1.900 - 1.750) / 2}{1/2} = \frac{.075}{1/2} = .15$$

$1/2 \alpha = 8.5^\circ$

DISTRIBUTION PLATE

D1
3

DESIRE 12% OPEN AREA

$$\text{NEW TOTAL PLATE AREA} = \pi \left(\frac{3}{4}\right)^2 = 8.29156 \text{ in}^2$$

$$\frac{\times 12\%}{.99498 \text{ in}^2}$$

TOTAL REQ'D OPEN AREA

BREAK DOWN

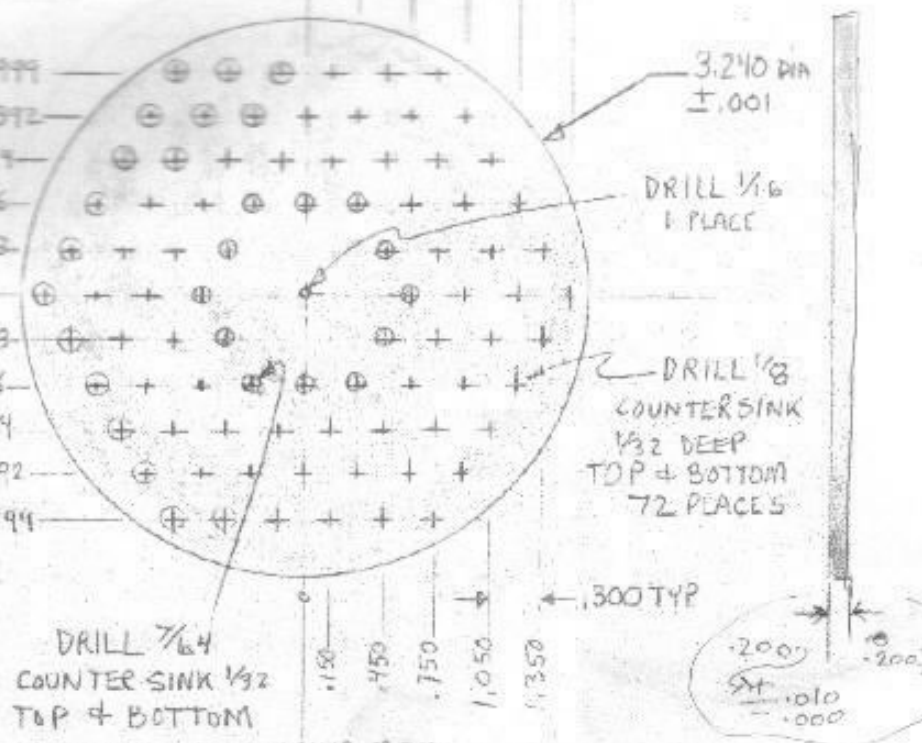
HOLE DIA	HOLE AREA	QTY	TOTAL AREA
1/8"	.012266 in ²	72	.883152 in ²
3/64"	.009391 in ²	12	.112692 in ²
1/16"	.003066	1	.003066 in ²
		<u>85</u>	<u>.99891 in²</u>

TOTAL OPEN ±2.0% OK

FULL SIZE
347 SS

NO OF HOLES

1/16"	3/64"	1/8"
		6
		7
		8
3	6	
2	6	
1	2	6
2	6	
3	6	
	8	
	7	
	6	
1	12	72
TOTAL		



DRILL 3/64
COUNTERSINK 1/32
TOP & BOTTOM
12 PLACES AT INNER MOST
RADII'S ONLY.

- IMPORTANT DIAMETER:
+ TOLERANCES
- SCREENS 3.250
 - HOUSING BORE 3.245 ±.00
 - DIST. & SUPPORT PLATES 3.240 ±.00
 - ANTI CHANNEL BAFFLES 3.250 ±.00
 - PART THEM OFF ±.02 THICK, ID IS 3.000 ±.00
 - SCREEN LOADING PISTON 3.235 ±.000

③

SUPPORT PLATE

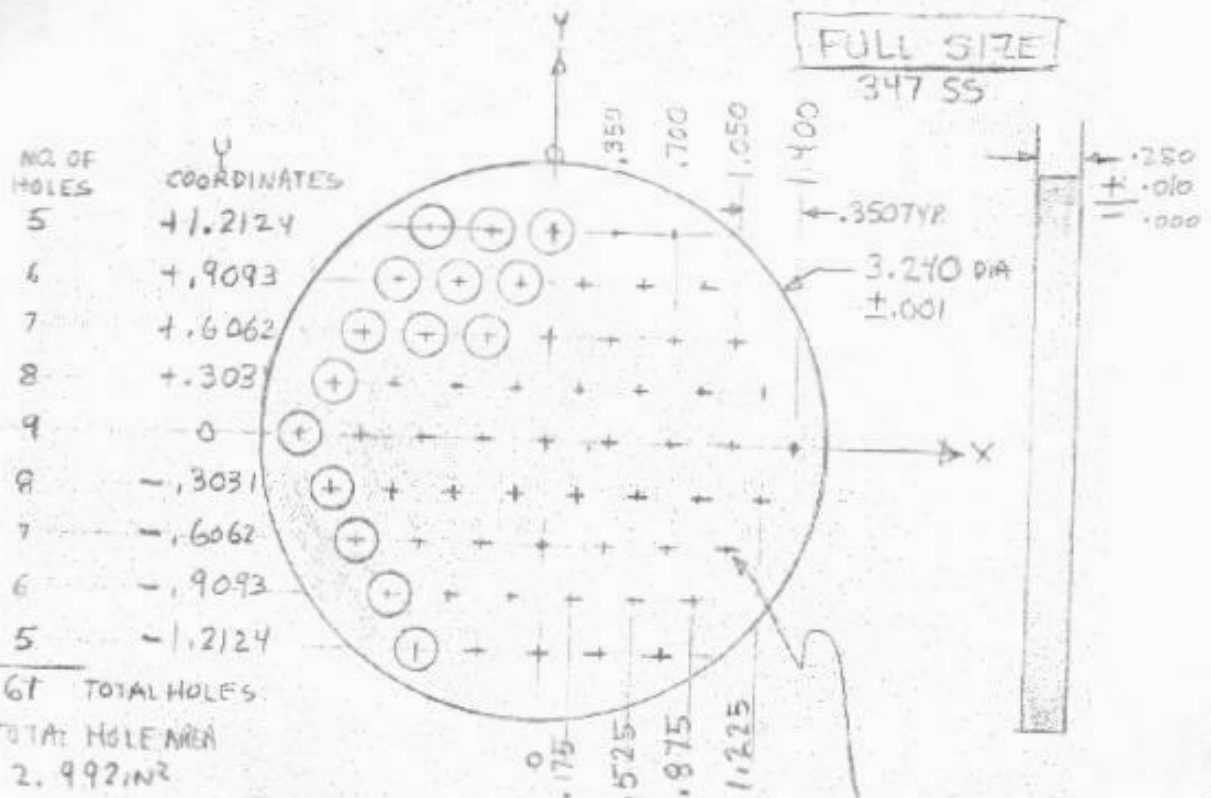
REVISED TO 3/4"

38 → 42% OPEN AREA (PER GEORGE CARBONEN
 (THIS CONCURS W/ BRADBURY 40% OPEN AREA

USE 1/4" DIA HOLES ; AREA = $\frac{\pi}{4}(\frac{1}{4})^2 = .0490625 \text{ in}^2$

DESIRED OPEN AREA = 40% $[\frac{\pi}{4}(3\frac{1}{4})^2] = .40(8.2916) = 3.3166 \text{ in}^2$

∴ NO OF 1/4" DIA HOLES REQD = $\frac{3.3166 \text{ TOTAL}}{.04906/\text{HOLE}} = 67$



67 TOTAL HOLES

∴ TOTAL HOLE AREA

= 2.992 in²

= 36.1% NOT ENOUGH OPEN AREA

TRY

17/64 DRILL (.265" DIA) ON SAME

PATTERN, THEN TOTAL HOLE

AREA = $67 \left[\frac{\pi (.265)^2}{4} \right] = 67 (.0553 \frac{\text{in}^2}{\text{HOLE}})$

= 3.7136 in² TOTAL OPEN AREA

= 41.1% OK

DRILL 17/64 (.265")
 COUNTER SINK 1/32 Deep
 TOP & BOTTOM
 61 PLACE

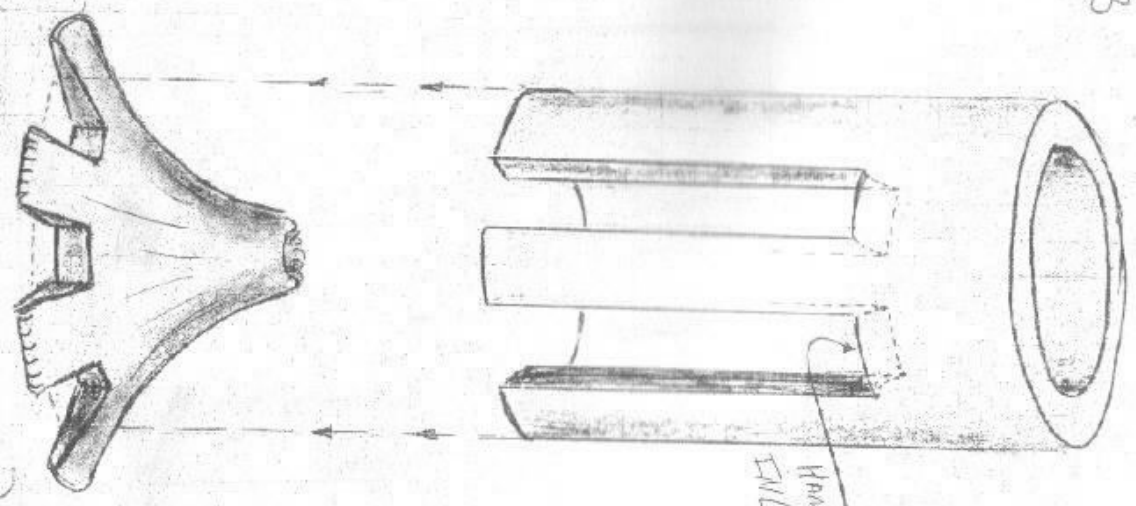
⑤

CR-3

CATALYST PACK
"VOLCANO" PINTLE

INLET
H₂O₂

HOWD FILE
INLET RADUS



BOTTOM SURFACE SHOULD PROTRUDE

1/8" Below Separation Plane

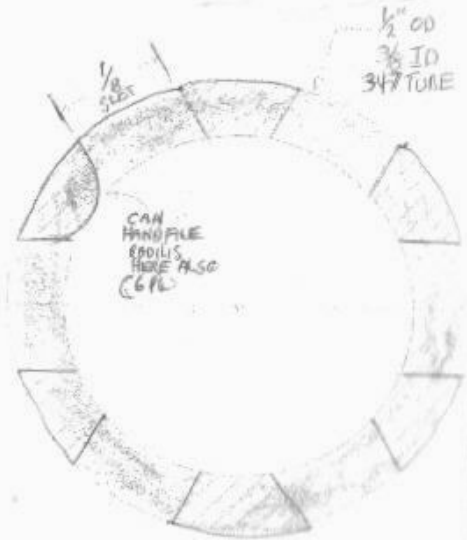
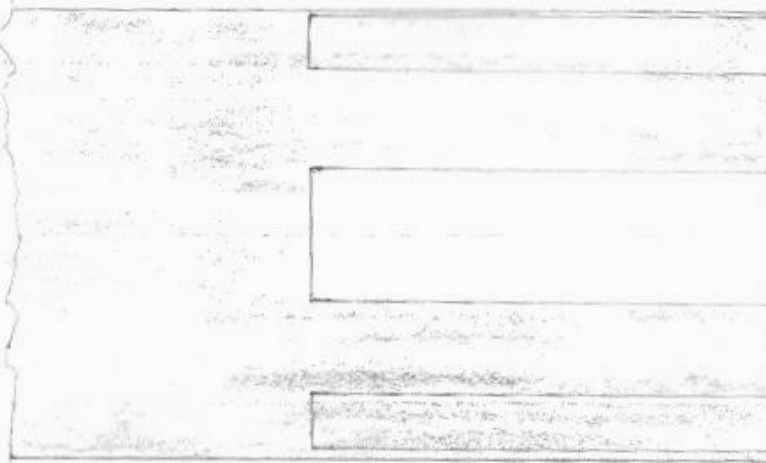
WELD PART

347 TUBE

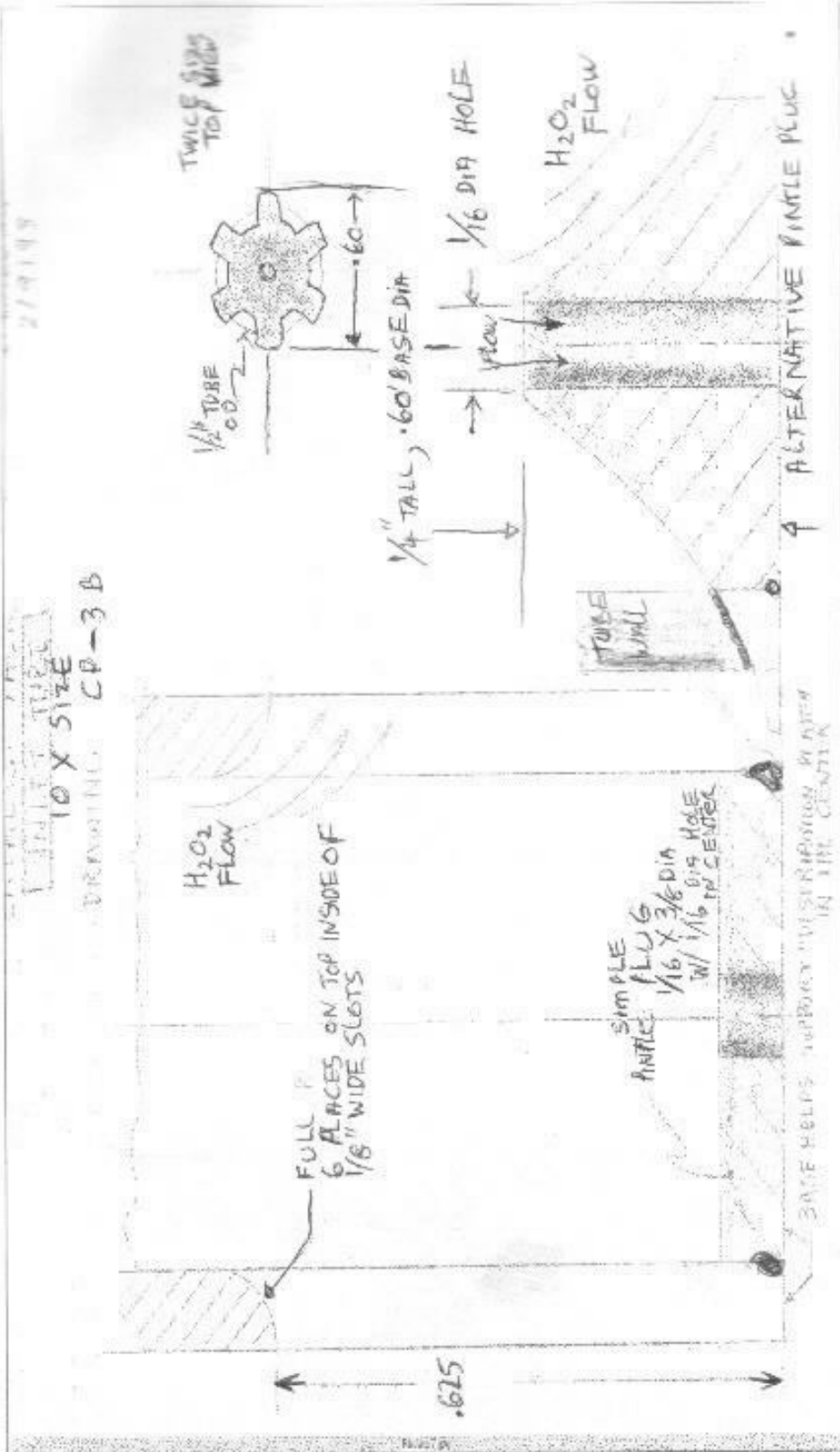
$$\frac{\text{TOTAL SLOT AREA}}{\text{INLET TUBE PLAN AREA}} = \frac{6 \left[\frac{1}{8} \times \frac{1}{8} \right]}{\frac{\pi}{4} \left(\frac{3}{8} \right)^2} = \frac{0.09375}{0.11044} = 0.847 \text{ OK}$$

INLET TUBE
10 TIME SIZE
DRAWING NO CP-3A

SIX 5/8" DEEP SLOTS



6



L

8

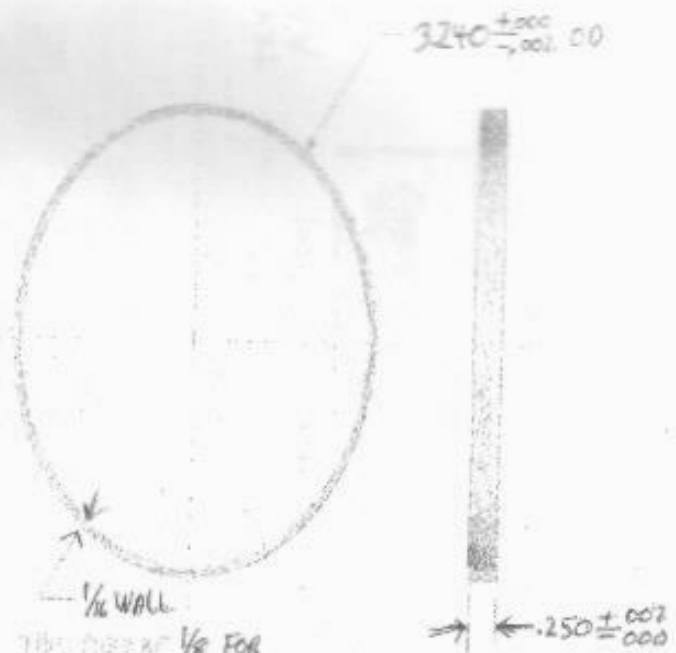
CATALYST RACK
SACRIFICIAL WELD RING

FULL SIZE

GRADE CP-4

347 SS 1.000 (+) SPACES 8 PART 1001 001

THIS PART SERVES TO PRECISELY COMPRESS THE DISTRIBUTION PLATE, MAKING IT A SEPARATE PIECE. INSTEAD OF MACHINED INTO THE HEAD, MEANS IT CAN BE DISCARDED AFTER AN ACCESS CUT IS MADE INTO THE CATALYST RACK. ALSO RE WELD STARTER WILL NOT REQUIRE MAKING A NEW HEAD END - USE A SEPARATE WELDER!



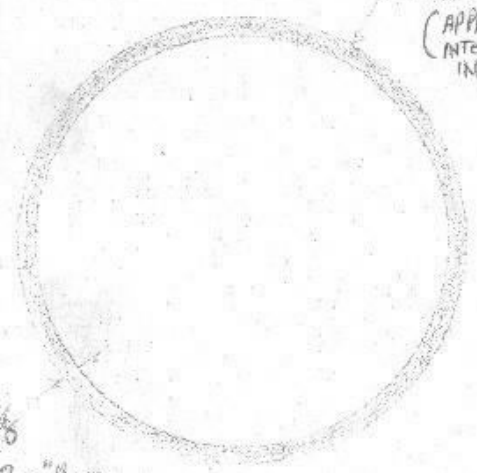
THE ~~1/8~~ 1/8 FOR EASIER MACHINING. ALSO WOULD COMPRESS LESS IN USE. 1/8 WOULD HOWEVER EFFECT FLOW THRU 6 OF THE 85 HOLES IN THE DISTRIBUTION PLATE. COULD RELIEVE LOCALLY + ALIGN DURING INSTALLATION??

6 SPACES EQUALLY SPACED



9 W

CATALYST PACK
ANTI-CHANNEL Baffles
FULL SIZE
347 SS
MAKE 3

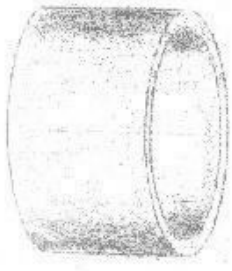


TRY TO PART OFF
ABOUT .020

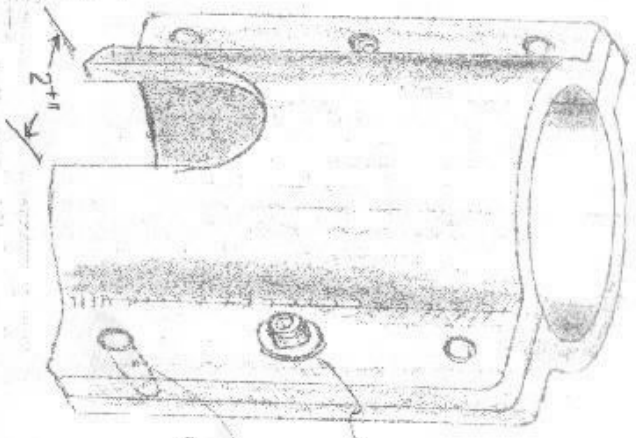
6

1/8
i.e. 3.0" Bore

Top concept
Foil
Catalyst pack assembly



Top
3.5" OD
3.0" ID



SPLIT MALE
Bottom

Arrow 3.750

ID

Fit top
could be sealed



Bolts

Alignment
Pin
Pin

2" ID

ASSEMBLED CATALYST PACK WEIGHT EST

1. HOUSING

CYL	$= \left[\pi \left(3 \frac{3}{8} \right)^2 \left(2.95 \right) \left(\frac{1}{8} \right) \right] = 283 \frac{\text{LB}}{\text{ft}^3} (3.91 \text{ ft}^3) = 1.1110$	}	
HEMISPHERE	$= \left[\frac{\pi \left(3 \frac{3}{8} \right)^2}{2} \left(\frac{1}{8} \right) \right] = 283 \frac{\text{LB}}{\text{ft}^3} (2.23 \text{ ft}^3) = 63 \text{ LB}$		
			1.74 LB

2. DISTRIBUTION PLATE

$$\left[\frac{\pi \left(3 \frac{1}{4} \right)^2 \cdot 2.00}{4} \right] \times (100 - 12\%) = 283 \frac{\text{LB}}{\text{ft}^3} [1.65 \text{ ft}^3] \times 88 = \underline{.41 \text{ LB}}$$

3. SUPPORT PLATE

$$\left[\frac{\pi \left(3 \frac{1}{4} \right)^2 \cdot 2.50}{4} \right] \times (100 - 40\%) = 283 \frac{\text{LB}}{\text{ft}^3} [2.072 \text{ ft}^3] \times 60\% = \underline{.35 \text{ LB}}$$

4. HEAD

$$\left[\frac{\pi \left(3.5 \right)^2 \times 5}{32} \right] = 283 (1.50 \text{ ft}^3) = \underline{.43 \text{ LB}}$$

5. COMPACTED SCREENS
+ ANTI CHANNEL Baffles

$3 \frac{1}{4}$ " O/A	100% PLATED COATED	2.18 LB
-----------------------	--------------------------	---------

← 10 / B

