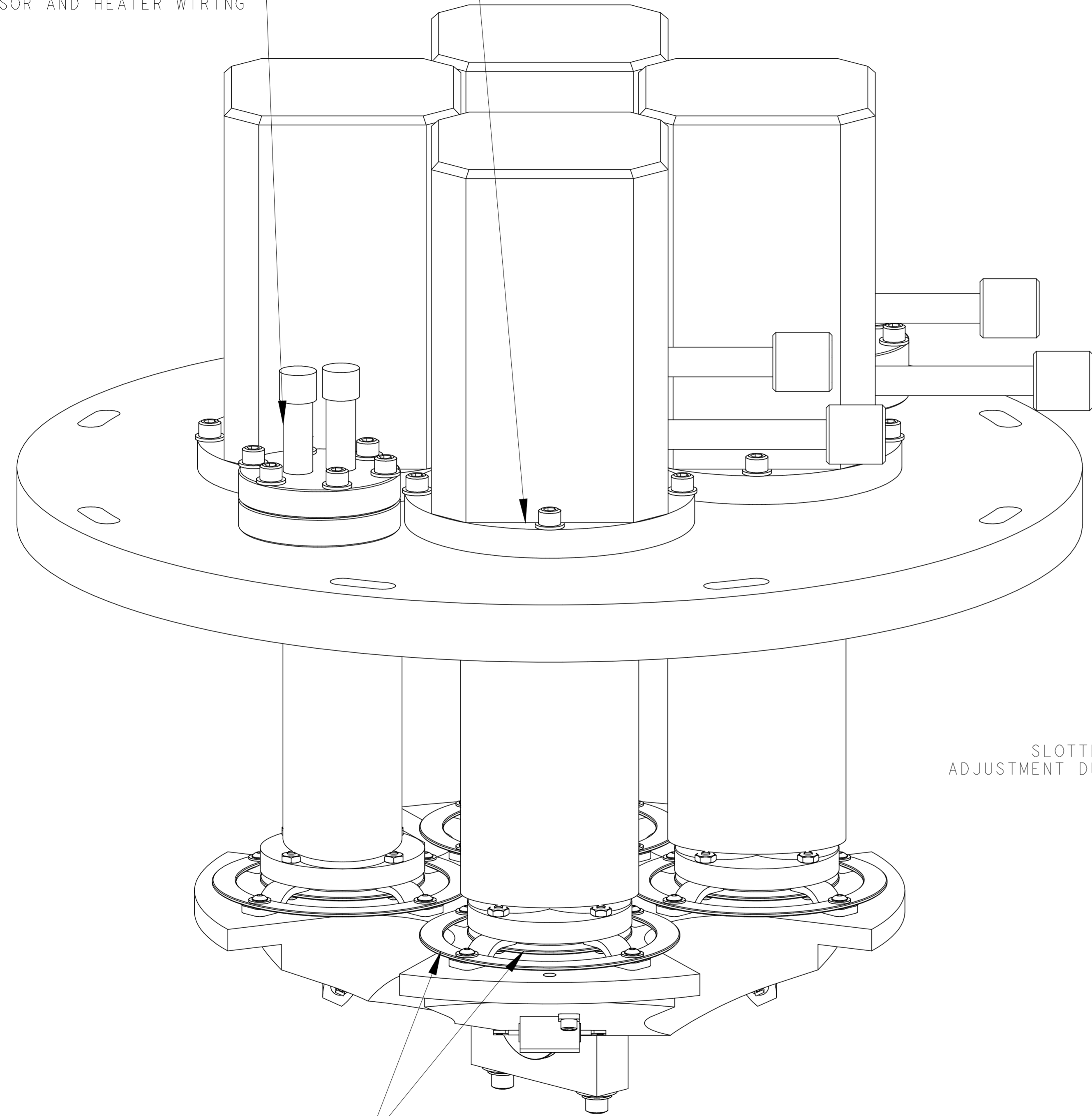


4X REFRIGERATION HEADS ARE BOLTED TO MOUNTING PLATE AND SEALED WITH A VITON O-RING (1/4-28 SHCS)

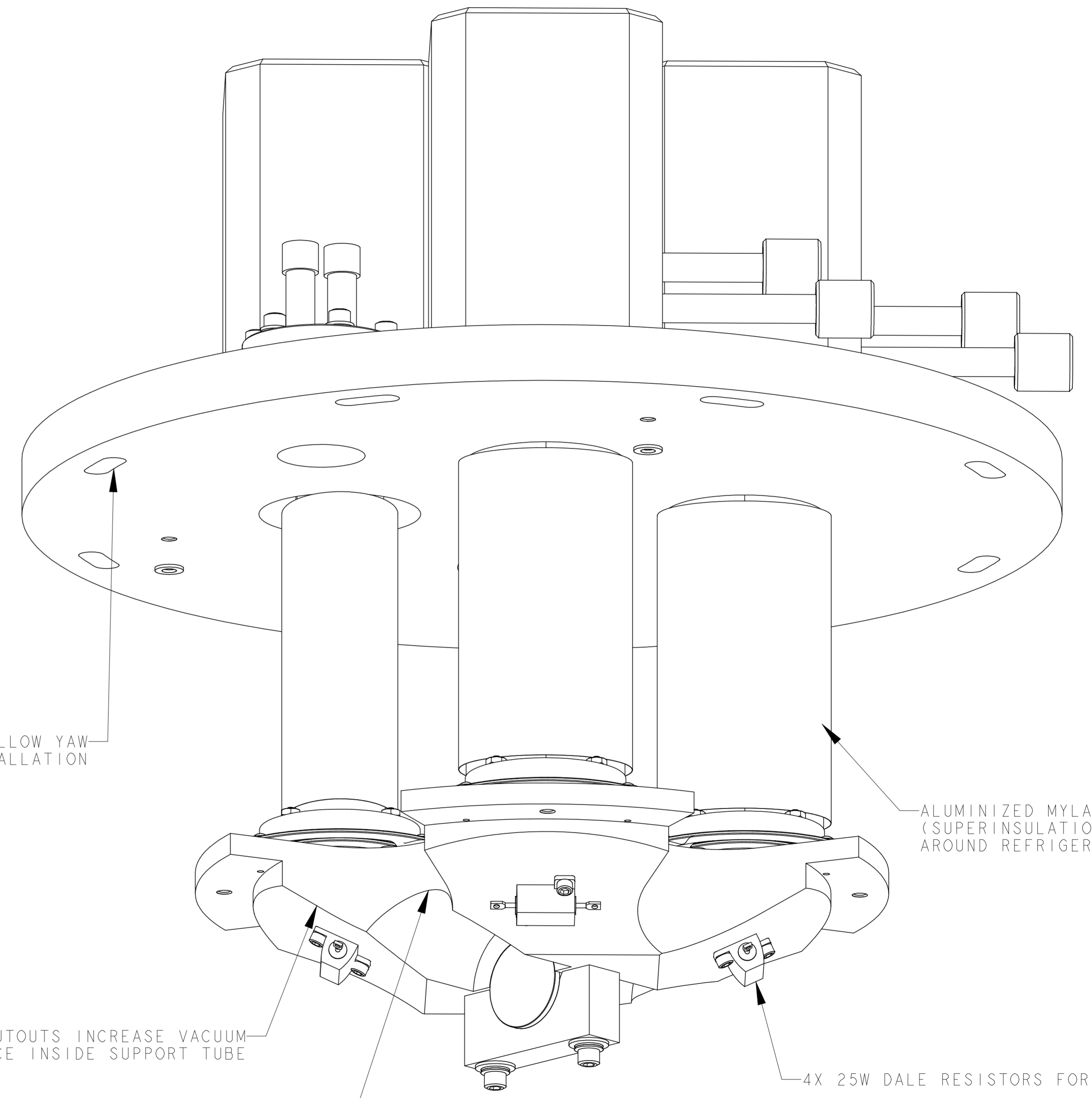
ELECTRICAL FEEDTHRU ON 2-3/4 CF FOR SENSOR AND HEATER WIRING



1/16" THICK SS CLAMPING RINGS HOLD BRAIDED COPPER STRIPS TO HEADS AND COLDPLATE

SCALE 3/4

SLOTTED HOLES ALLOW YAW ADJUSTMENT DURING INSTALLATION



ALUMINIZED MYLAR (SUPERINSULATION) WRAPPED AROUND REFRIGERATION HEADS

4X CUTOUTS INCREASE VACUUM CONDUCTANCE INSIDE SUPPORT TUBE

1.0-CM STAY-CLEAR IN COLDPLATE AROUND THE CRYSTAL ON BOTH SIDES

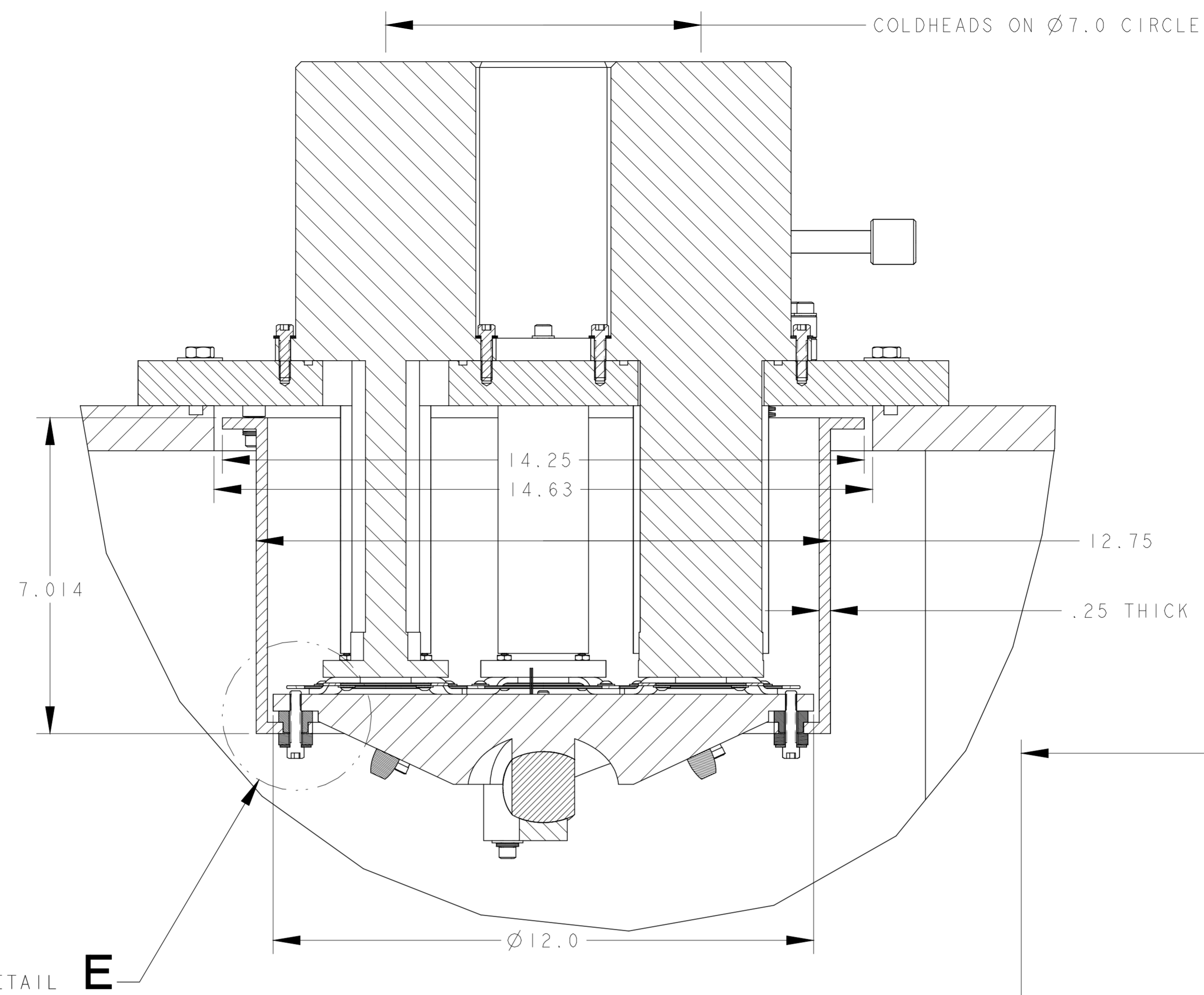
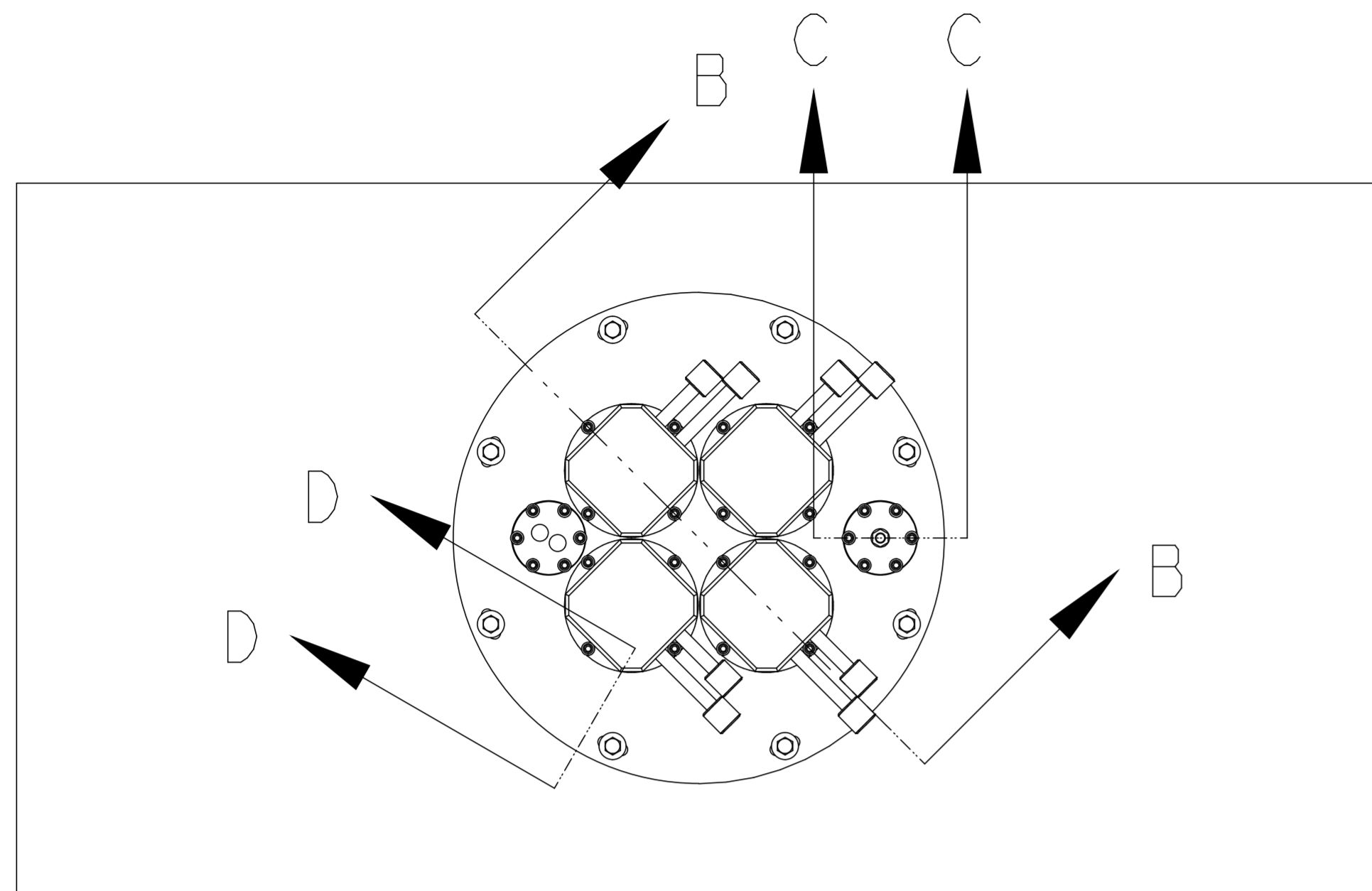
4X 25W DALE RESISTORS FOR HEATING

SCALE 3/4

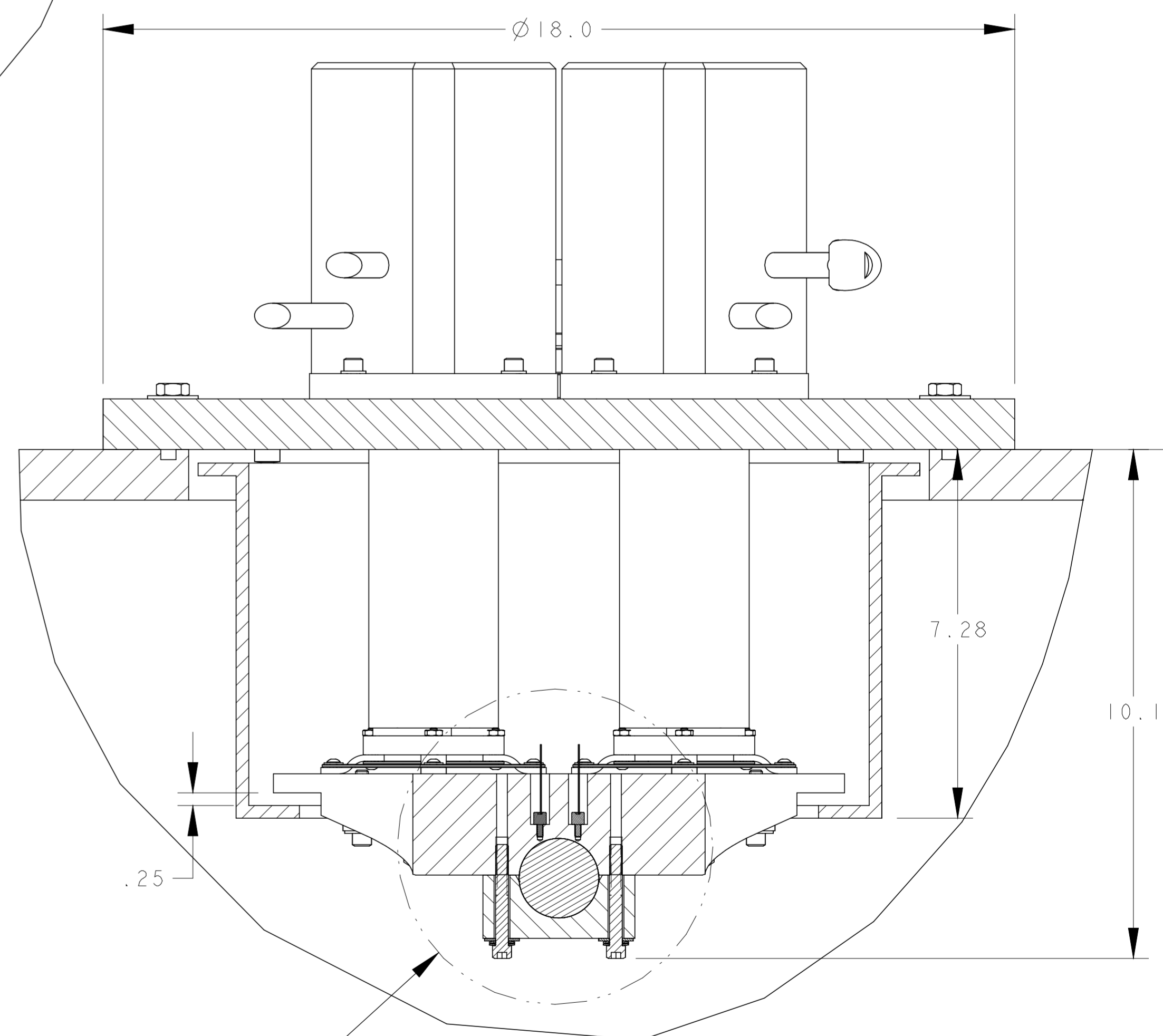
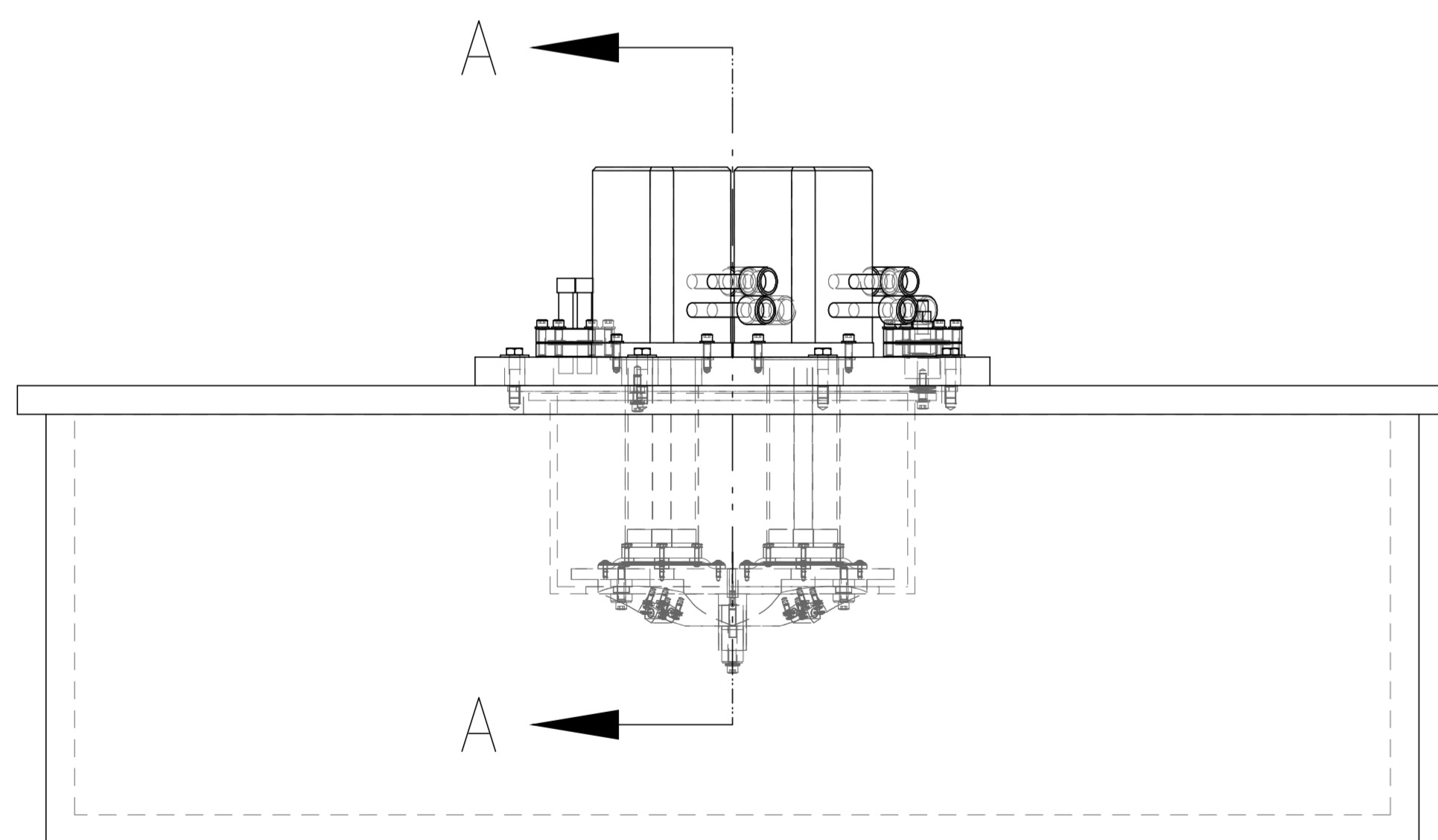
TI-SAPPHIRE CRYSTAL CRYOGENIC COOLING ASSEMBLY

CONCEPT 5/2/02

DARYL OSHATZ AND STEVE VIROSTEK

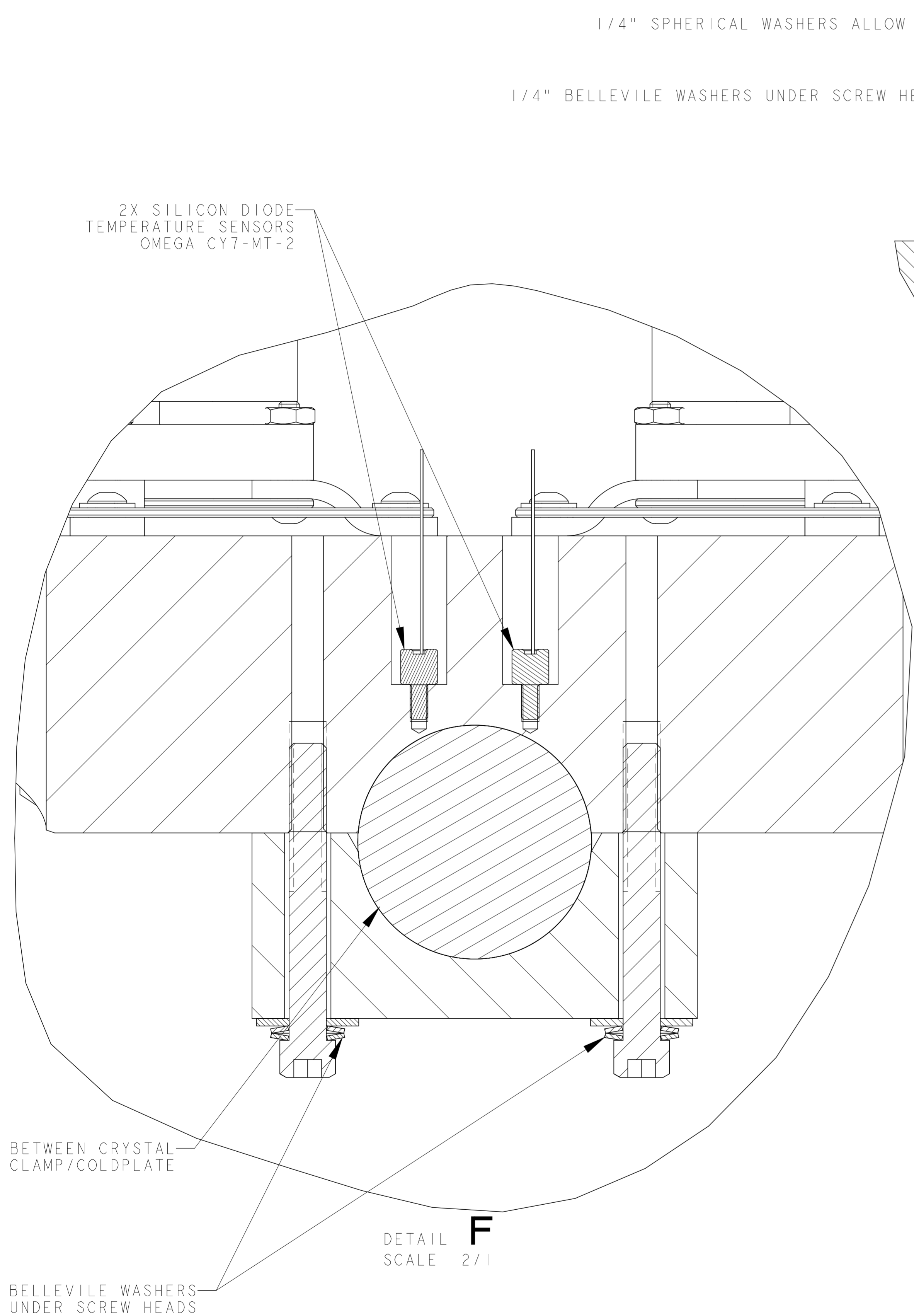


SECTION B-B
SCALE 1/2



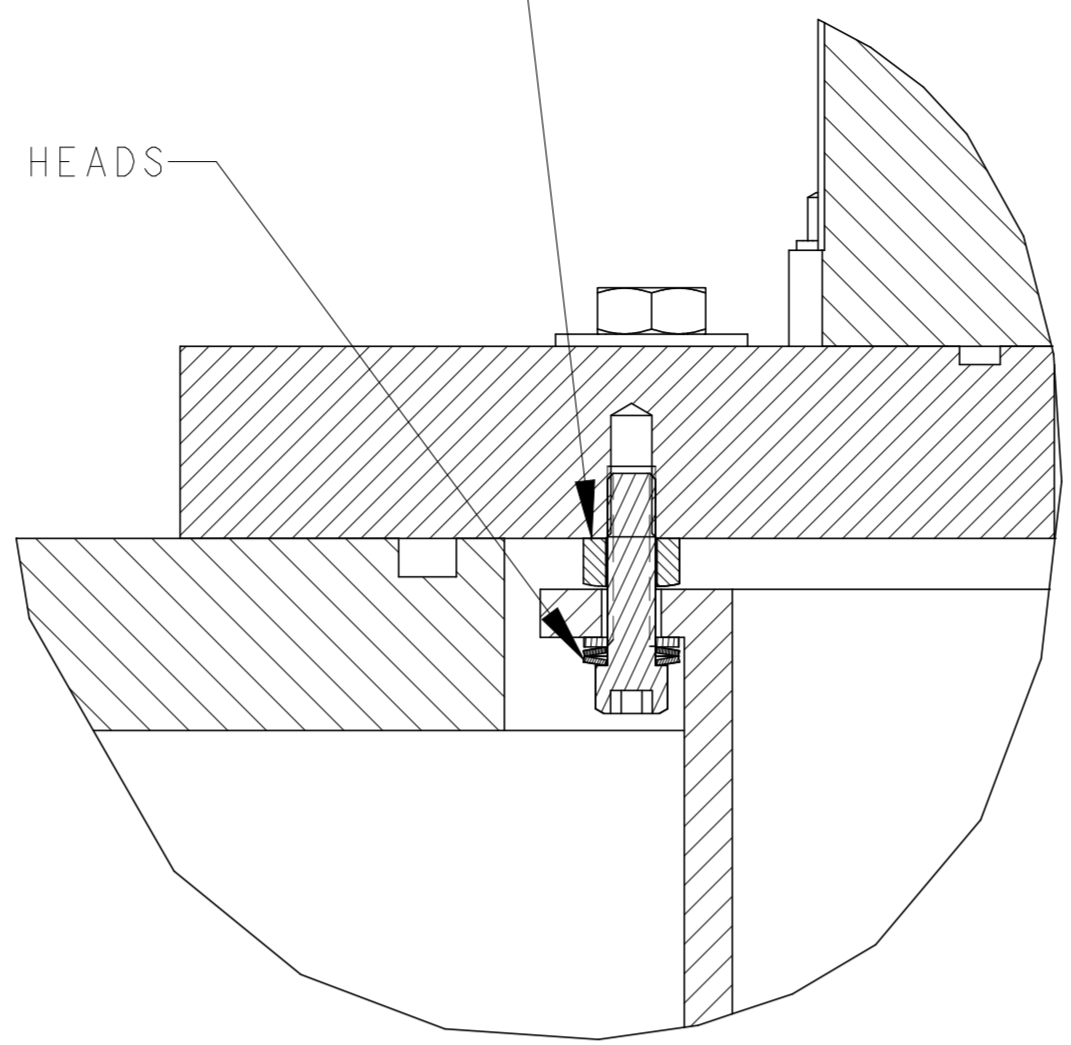
SECTION A-A
SCALE 1/2

TI-SAPPHIRE CRYSTAL CRYOGENIC COOLING ASSEMBLY
 CONCEPT 5/2/02
 DARYL OSHATZ AND STEVE VIROSTEK

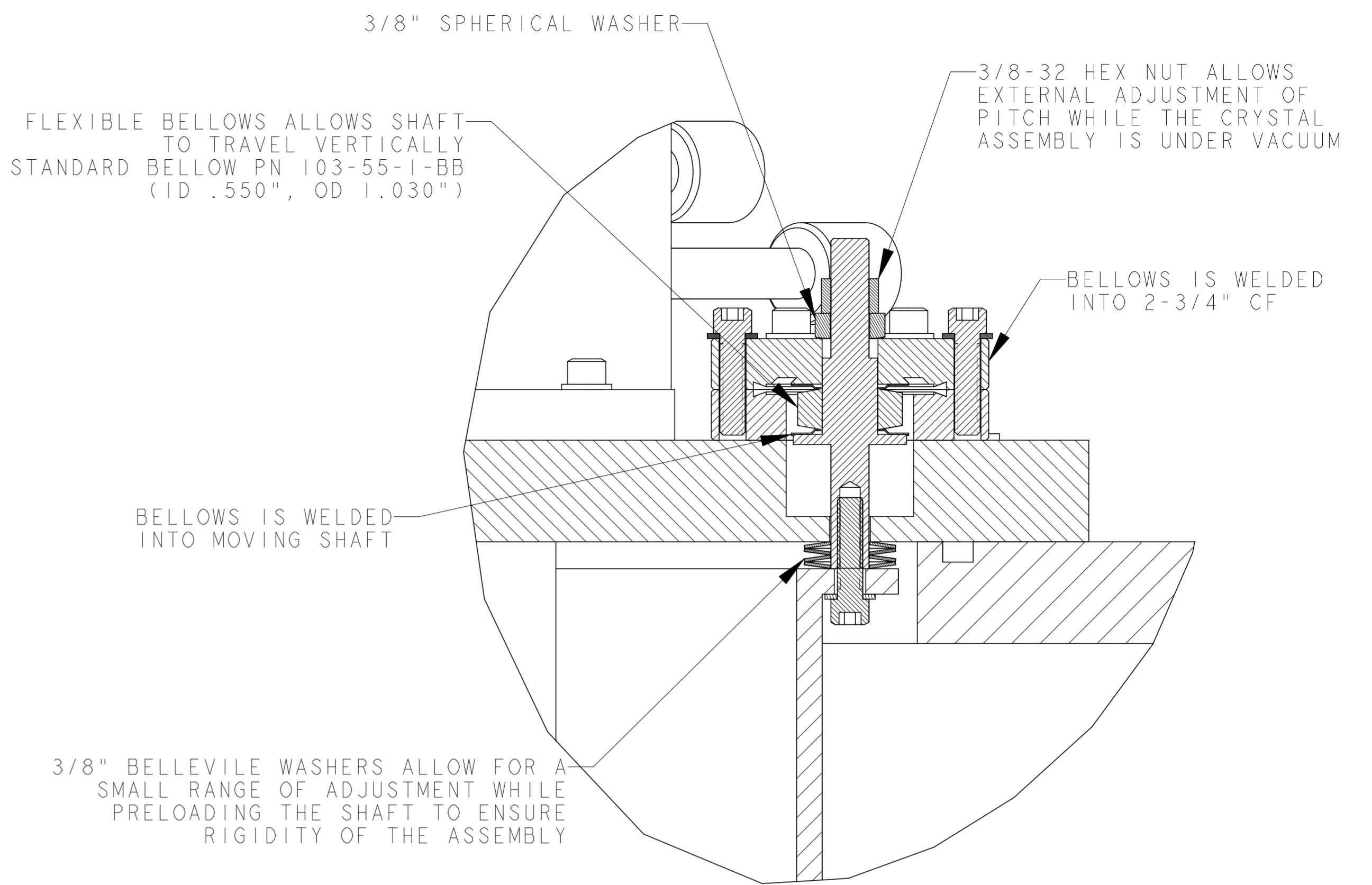


1/4" SPHERICAL WASHERS ALLOW SMALL ROTATION

1/4" BELLEVILE WASHERS UNDER SCREW HEADS

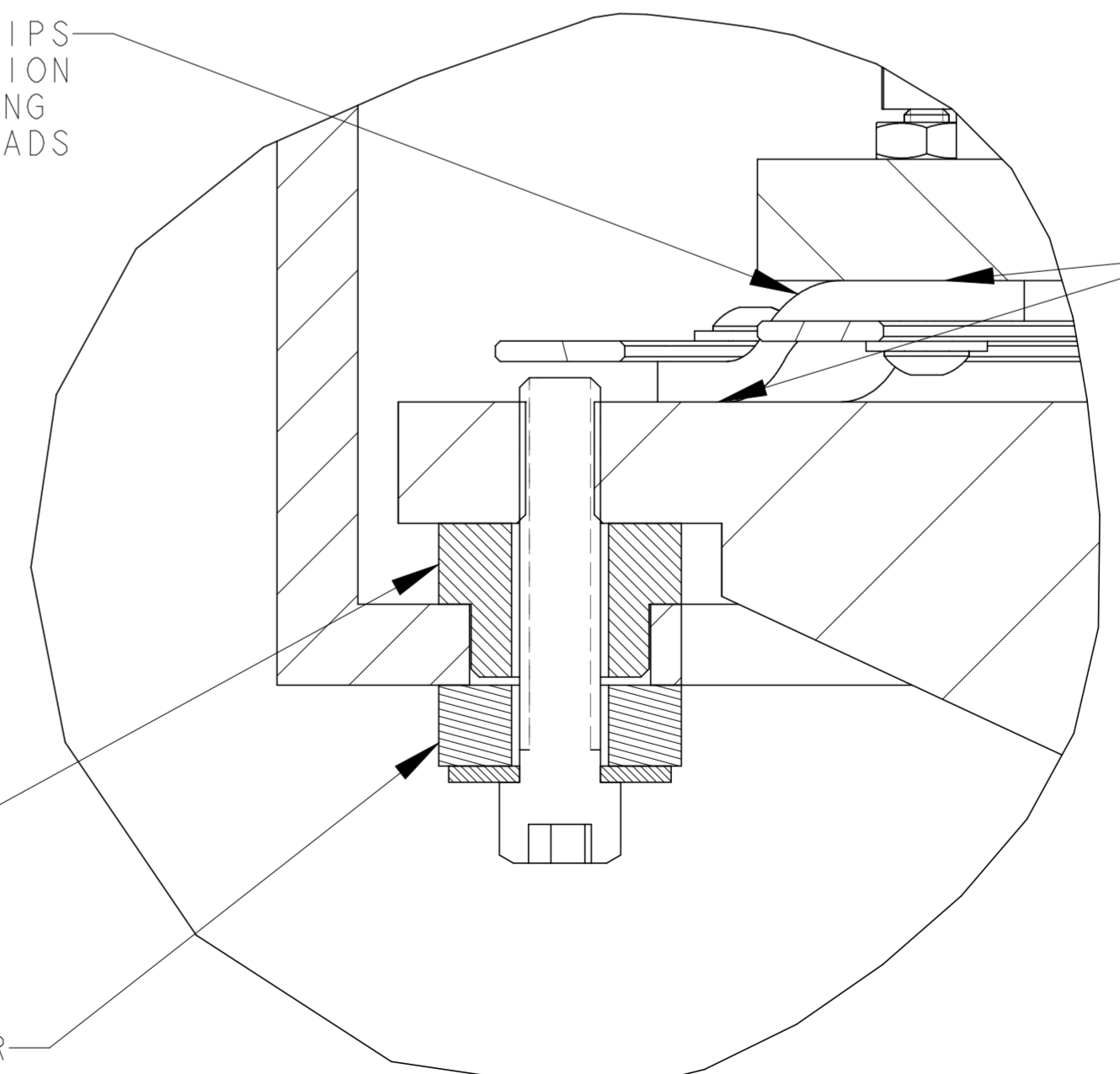


SECTION **D-D**
SCALE 1/1



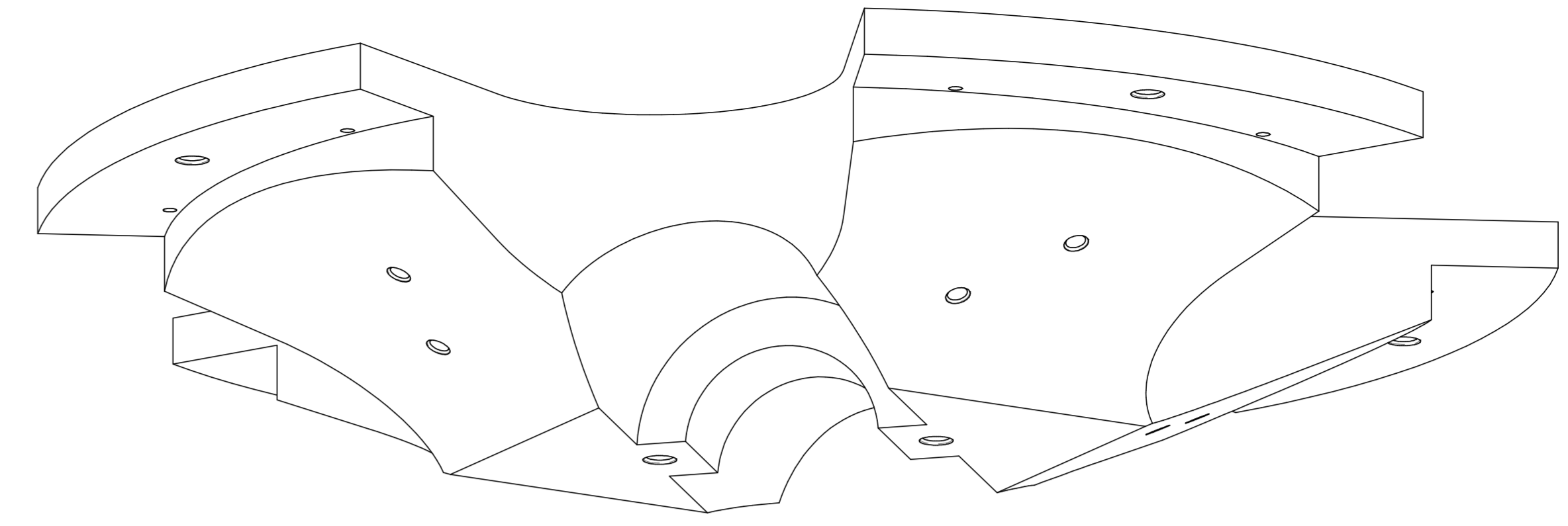
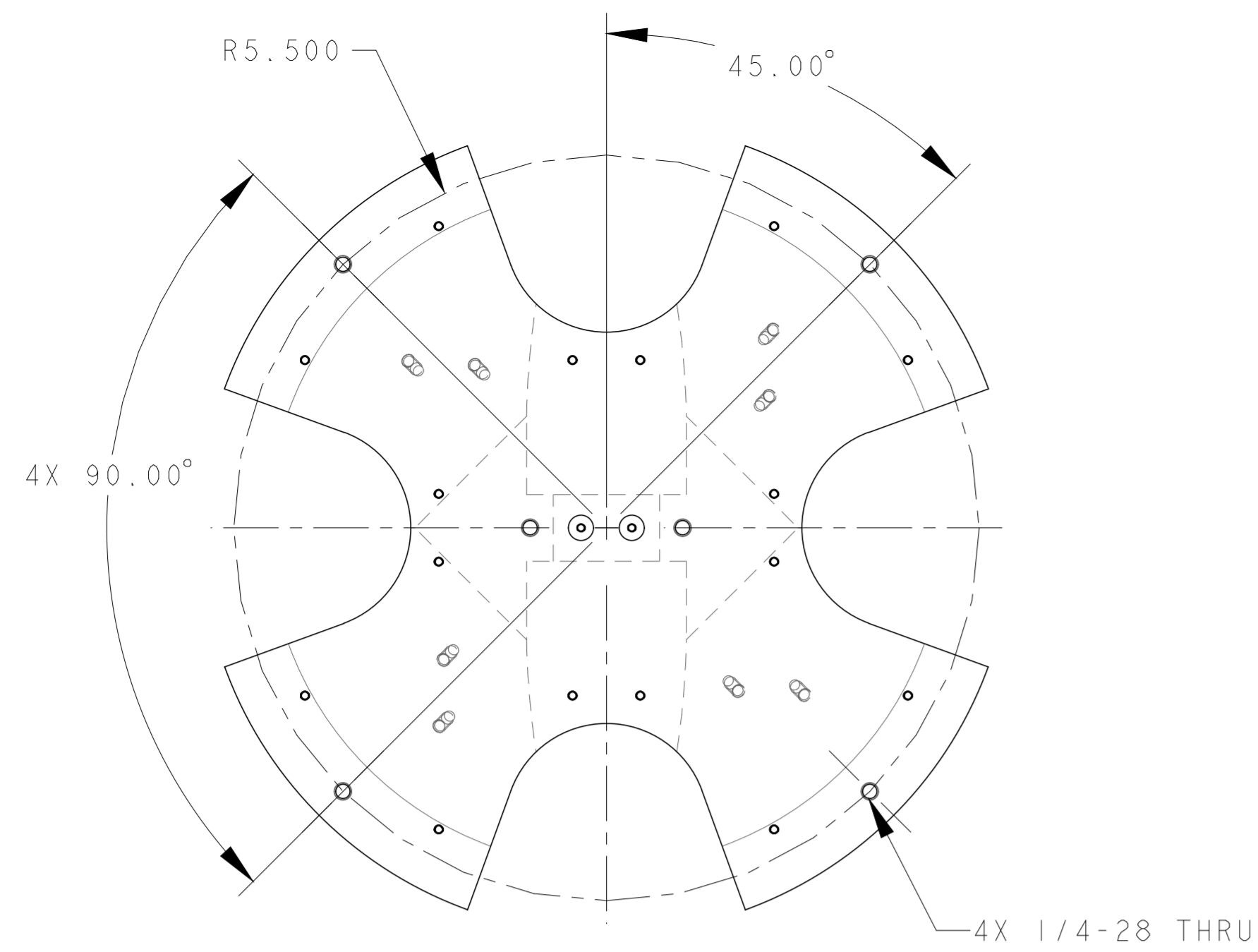
SECTION **C-C**
SCALE 1/1

FLEXIBLE BRAIDED COPPER STRIPS ALLOW THERMAL CONDUCTION AND AVOID OVER-CONSTRAINING THE REFRIGERATION HEADS



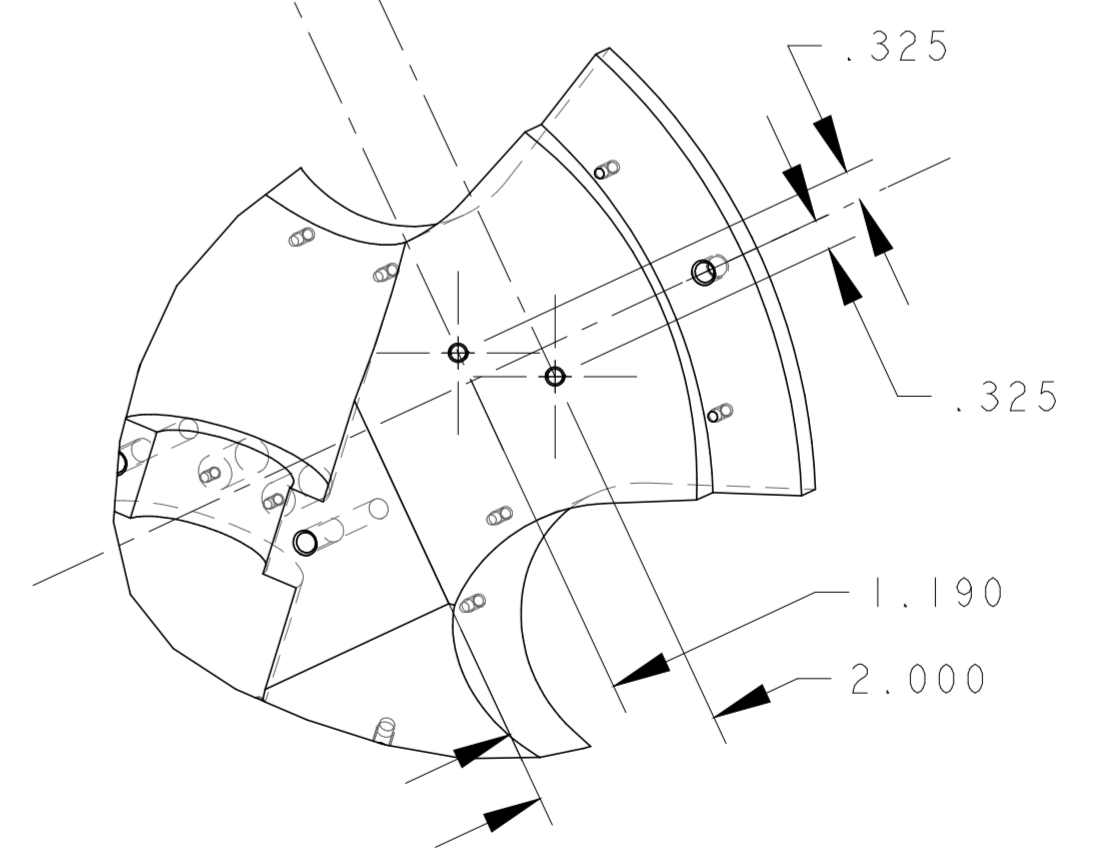
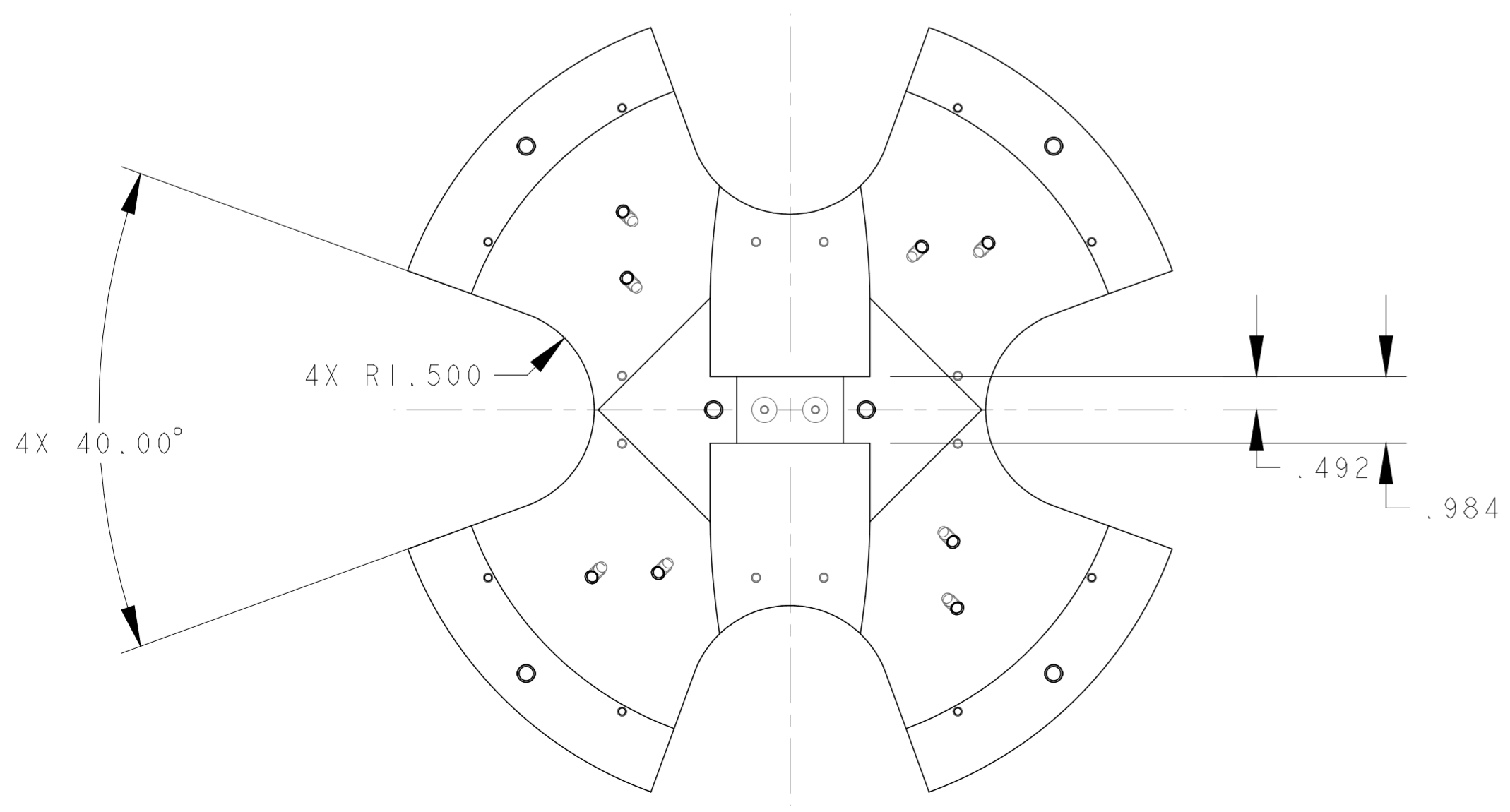
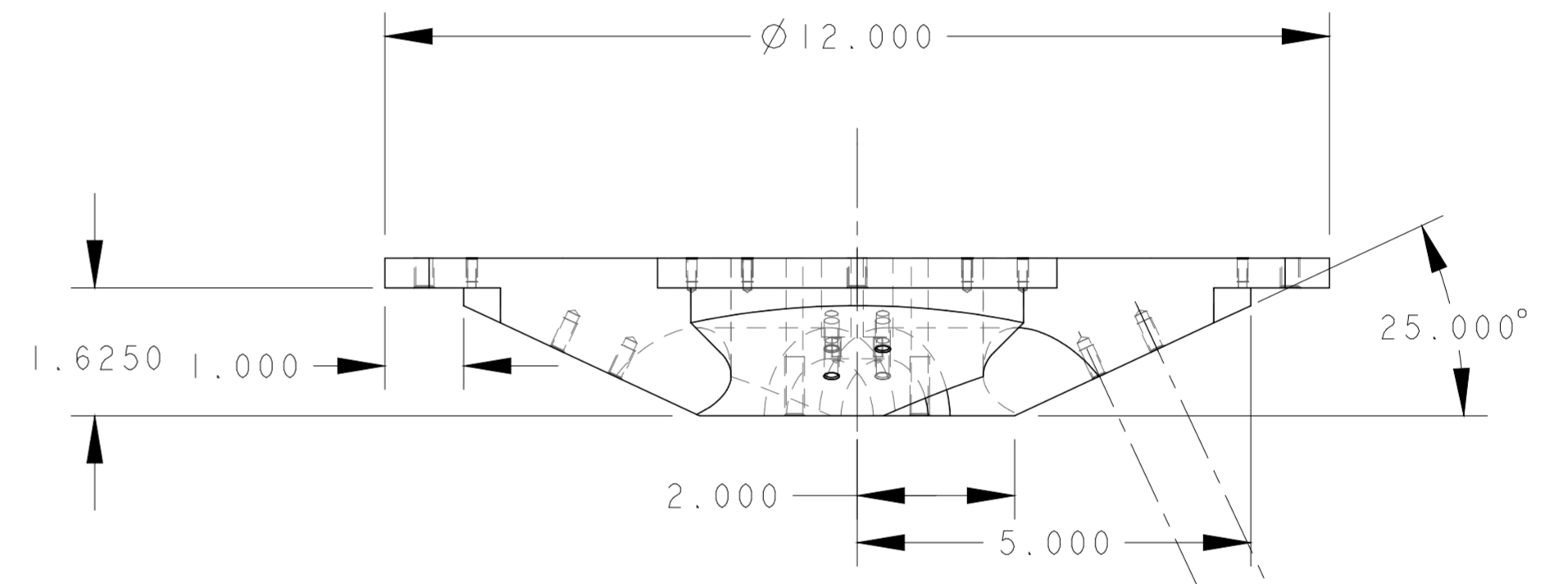
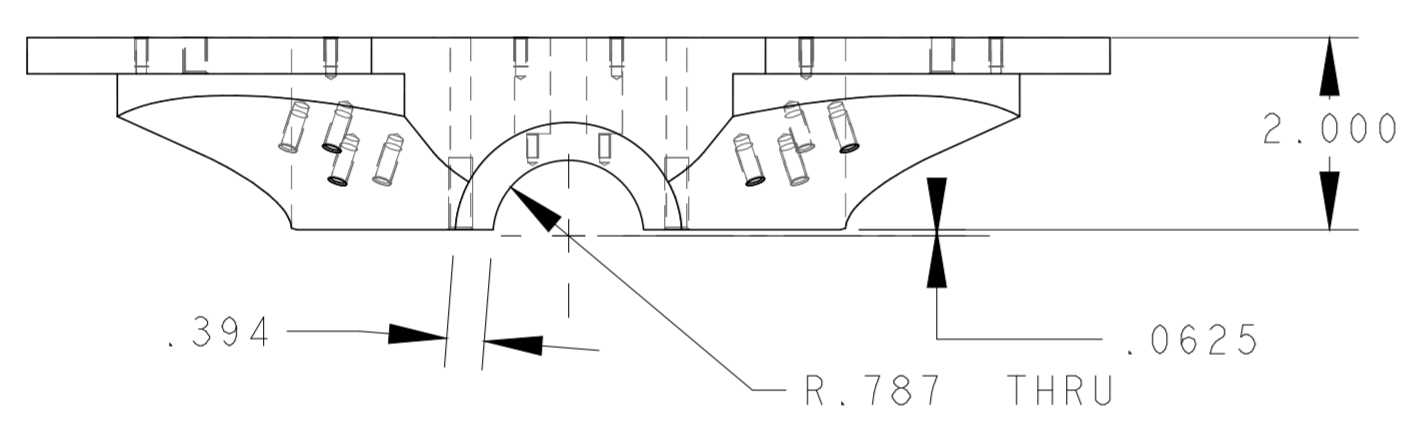
DETAIL **E**
SCALE 2/1

DETAIL **F**
SCALE 2/1



COPPER COLDPLATE, 2" THICK, GOLD PLATED

SCALE 1/1



TI-SAPPHIRE CRYSTAL CRYGENIC COOLING ASSEMBLY

CONCEPT 5/2/02
DARYL OSHATZ AND STEVE VIROSTEK

SCALE 1/2