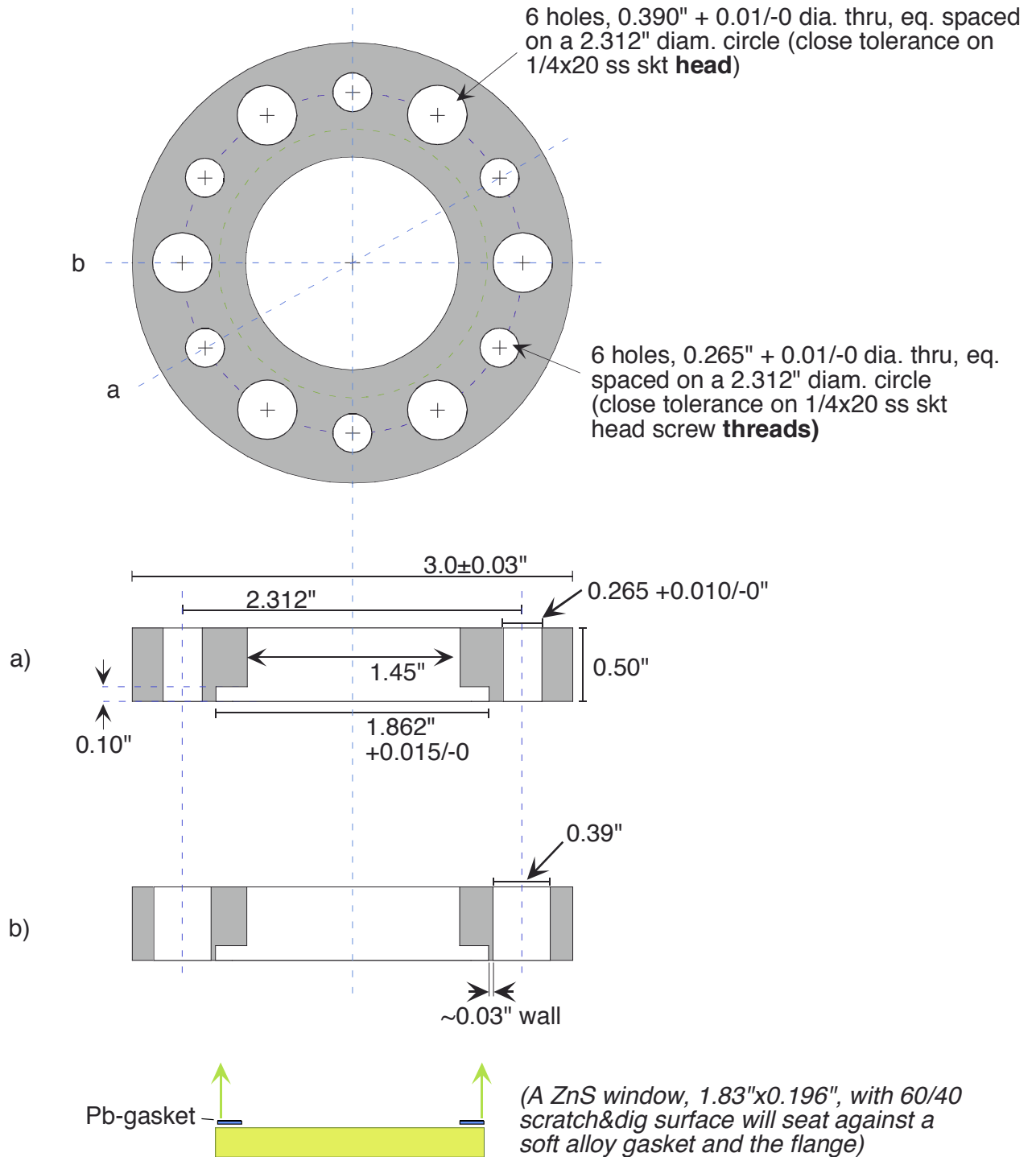


# Resealable UHV Window Fitting, Upper Clamp

Number of Pieces: 1

Materials: 'Chrome-Moly' steel disk, 3" OD x 0.575" thick, provided



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Revised 4/2/08

Scale: 100%  
1"=1"

Part 1 of 3

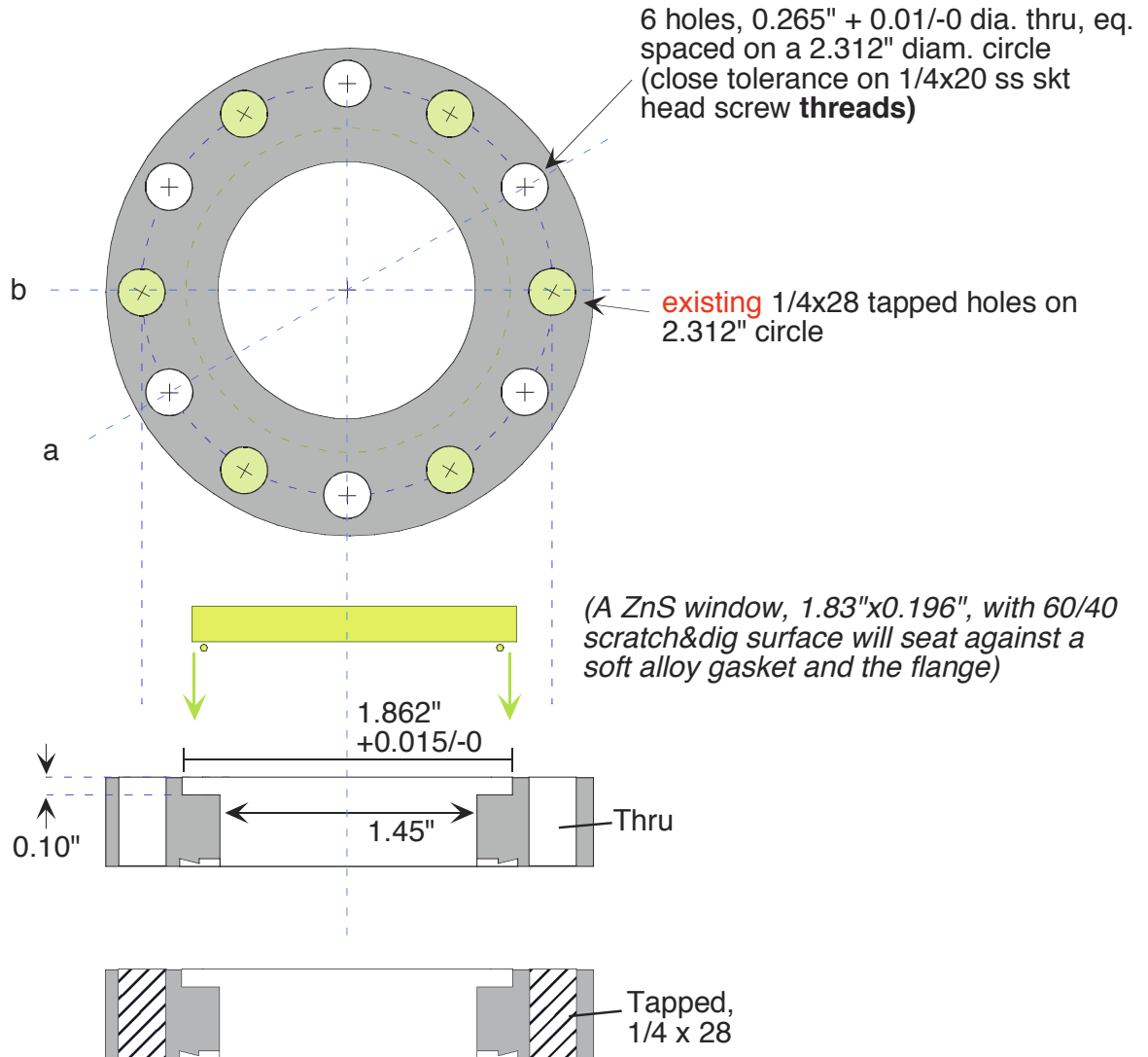
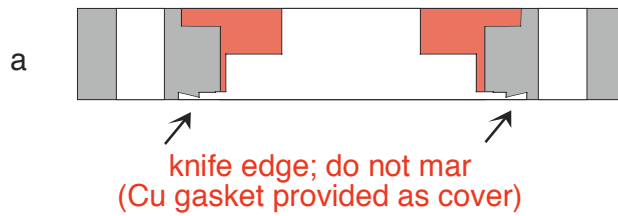
These shop designs were derived from designs published in:  
S. G. Cox, P. F. Griffin, C. S. Adams, D. DeMille, and E. Riis, 2003, Reusable ultrahigh vacuum viewport bakeable to 240°C:  
Review of Scientific Instruments Volume 74, Number 6, p. 3185-3187.  
See Also <http://massey.dur.ac.uk/kjw/research/vacuum.html> , <http://www.auburn.edu/ANIMAL>

# Resealable UHV Window Fitting, Modified CF Fitting

Number of Pieces: 1

Materials: 2.75" OD SS conflat flange, with 6 tapped 1/4x28 holes, 0.75" ID, provided

2.75" Flange to modify  
(with material to remove  
in red; also note 6 additional  
tapped holes, below)



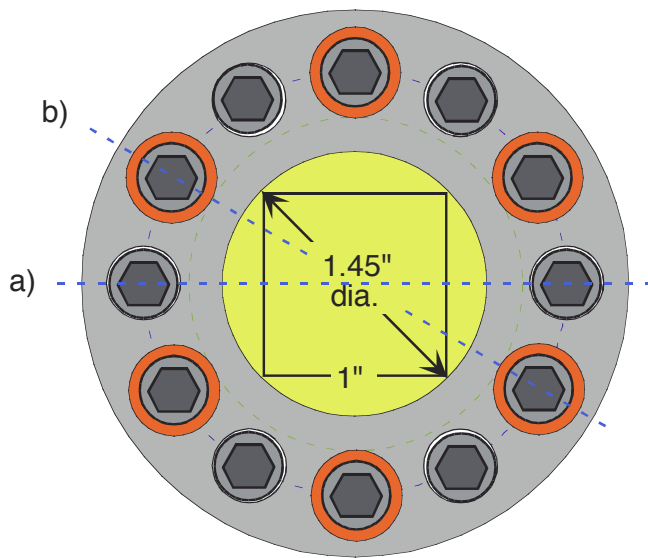
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Revised 4/2/08

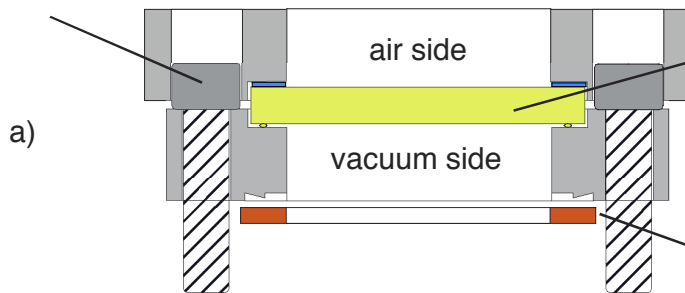
Scale: 100%  
1"=1"

Part 2 of 3

# Assembled UHV Window



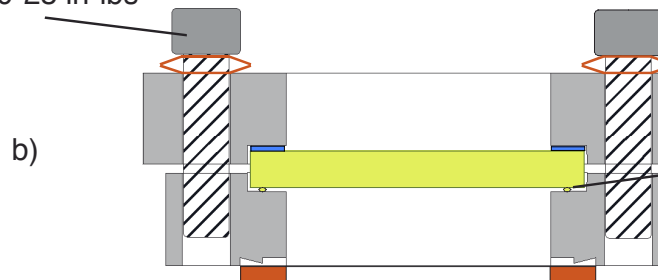
tighten to ~ 70 in-lbs



ZnS window,  
1.83"x0.196", with  
60/40 scratch&dig sur-  
face.

Cu gasket ID: 1.45"

\*tighten to ~ 10-25 in-lbs



Belleville Washers

\*Gasket made from  
Indalloy 165 solder, 0.030";  
or Vaculoy, 0.040" thick.

## \*Application notes:

1) Use of a different style of fastener as along 'b' (torx head, star-head, a smaller fastener, etc.) would prevent inadvertent tightening of the fasteners that hold the upper clamp (~ 10-25 in-lbs.) when tightening the main fasteners (~60 in-lbs) to close after loading and make the Cu-gasket seal;

2) the UHV seal on our present ZnS window is made with 0.040" indium wire (from EPSI, tel. 1-800-638-2581);

3) in the first cycles of use, we tightened fasteners for the the upper clamp to ~ 10 in-lbs, and increased the torque to ~15-20 in-lbs through successive cycles of loading and bakeout (see also discussions in Cox et al. 2003).

## Dimension notes:

Bolt circle:	2.312
Clearance on 1/4 skt head screw	0.39
Wall thickness	0.03
Clearance for window OT to flange	0.032 (0.016" each side)
Window OD	1.830" (46.482)
Sealing OD on upper flange	1.862

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Scale: 100%  
1"=1"