Corner Flexure 3 Dec 2003

16.5 ± .55 mm
(6.50 ± .02")
DS-00472-3 (6-32 Nfe)

2.5 ± .1 mm
(.0984 ± .004")
DS-00472-3 (3-8 MSF)

.7486 ± .007"
.197" ± .001" DS-00887-5 (SHAKE TEST MNT PL)

φ.2503 MAX AS-BUILT DIAM (PER INSPECTION SP)
3/8" (#10-24 UNC)

.5516 ± .006

.625 ± .0035"
(PER M/M CARD)

.7514"
.1234 ± .012"

.375" Heli-Cut THREAD DEPTH

.014" C'Sink (φ.25 DIAM X 120°)

φ.246 MIN DIAM (PER MCMASTER-CARR CATALOG)

φ.250 ± .001" DS-004 (FLEXURE DRILLING JK ASSEMBLY)
DRAWING, UNRELEASED

Nominal K

FLEXURE HOLE & OFFSET:

.004" SHOULDER RATTLE IN FLEXURE

.001" OVERSEE OF FLEXURE HOLE

.004" SHOULDER BOLT BENDING IN
FLEXURE HOLE

.009" OR ± .0045"

CORRESPONDS TO
46 HR OSCILLATION
1. **Shoulder Bolt Clearances**
   - Fit in flexure and grid are too sloppy
   -This allows rattling which bends shoulder bolt at threads and results in loss of pre-load
   - **Rec:** Tighten fits considerably into grid and/or torque shoulder down to grid to produce cantilevered pin
   - **Rec:** Tighten fit in flexure to prevent rattling. Use taper or expandable feature if needed

2. **Flexure Blade Pinning to a Corner Bracket**
   - Blade slips into bracket set with a mild interference fit which cannot be counted on to restrain it
   - 2 pins locate the blade and carry all shear loads.
   - According to drawing Tol’s, pin fit into blade is loose: .002" radial clearance. This would allow rotation of the blade wrt the bottom tray
   - **Rec:** Match-ream these holes for an interference fit
   - **Rec:** Reduce hole diametral tolerance and use hole size for interference fit

3. **Flexure Blade 45° Mounting Surface**
   - Flexure mounts to grid on 45° chamfer in grid corner and flexure blade base
   - Width of land on blade only provides ±.008" clearance to edge of land on grid, assuming perfect form and fit
   - When feature Tol’s are added, this could cause flexure to ride up on side of grid
   - There is indication of wear marks on Vibe test stand suggesting that this happened
   - **Rec:** Reduce width of blade base to provide ample clearance to ground.
VIB TEST FIXTURE

- Fixture was not built to print, but to verbal instructions, so this can’t serve as a template for the grid.
- Tols on drawing appear loose and drawing has clearly not been checked (double-dimensioning, ill-defined datums and dims, etc).
- Revise drawings to match required dims and tols, so it can be used as a template for grid fabrication.
- Check this against bottom tray/drilling fixture to ensure that interfaces fit-up as expected.