



Cascade Engineering Services, Inc.

Equipment for Shock - Time Domain

Electro-Dynamic Shaker

HALT (HASS) Chambers



Application

A single axis Shaker which accelerates the product in 1 direction (X,Y or Z orientation) for component and system level testing. Simulates loose cargo transportation and truck / trailer transportation.

E.D. Shaker Spec. (Bare Table)

Model:	V3544
Manufacturer:	Data Physics
Controller:	Data Physics, Signal Star
Capacity Force:	8000 lbs
Frequency Range:	2 to 2500 Hz
Maximum Velocity:	1.8 m / s
Maximum Displacement:	51 mm (2 in)
Bare Table Random:	15 to 20 g rms
Bare Table Sine:	10 to 20 g peak
Bare Table Shock:	Up to 70 g peak
Accelerometer DAQ:	6 Channels

Vibration Capability

- ✓ Sine Sweep & Sine Dwell
- ✓ Random
- ✓ Sine-on-Random
- ✓ Random-on-Random
- ✓ SRS

Shock Capability

- ✓ Half Sine
- ✓ Rectangle
- ✓ Symmetrical Triangle
- ✓ Non-Symmetrical Triangle
- ✓ Initial Sawtooth
- ✓ Terminal Sawtooth
- ✓ Trapezoid
- ✓ Sine Burst
- ✓ Double Sine

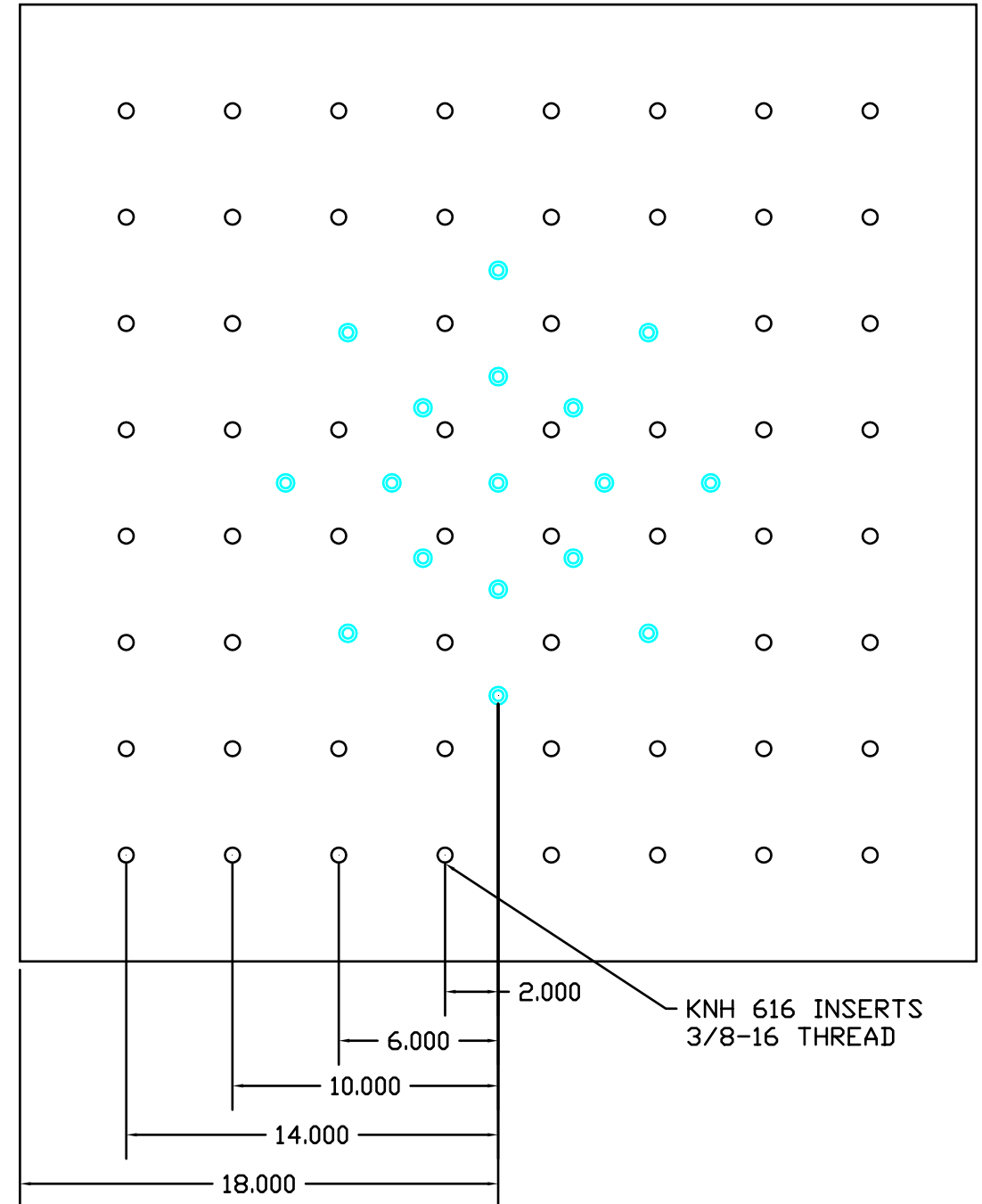
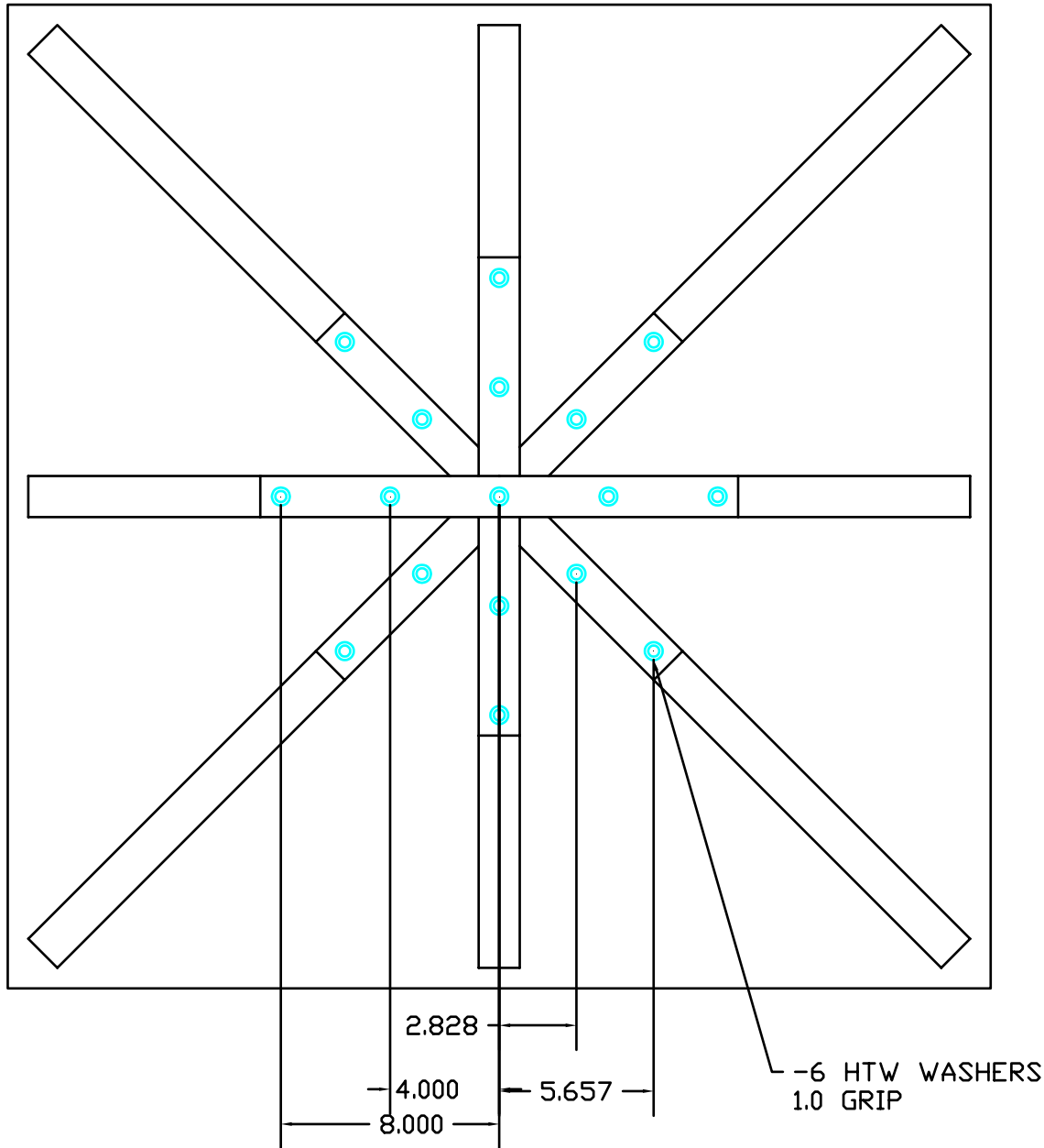
Shaker Table Hole Patterns & Drawing Files

[Table Hole Pattern \(X & Y Axis Orientation\)](#)

[Big Head Expander \(Z Axis Orientation\)](#)

[Small Head Expander \(Z Axis Orientation\)](#)

Big Head Expander (Z Axis Orientation)



Small Head Expander (Z Axis Orientation)

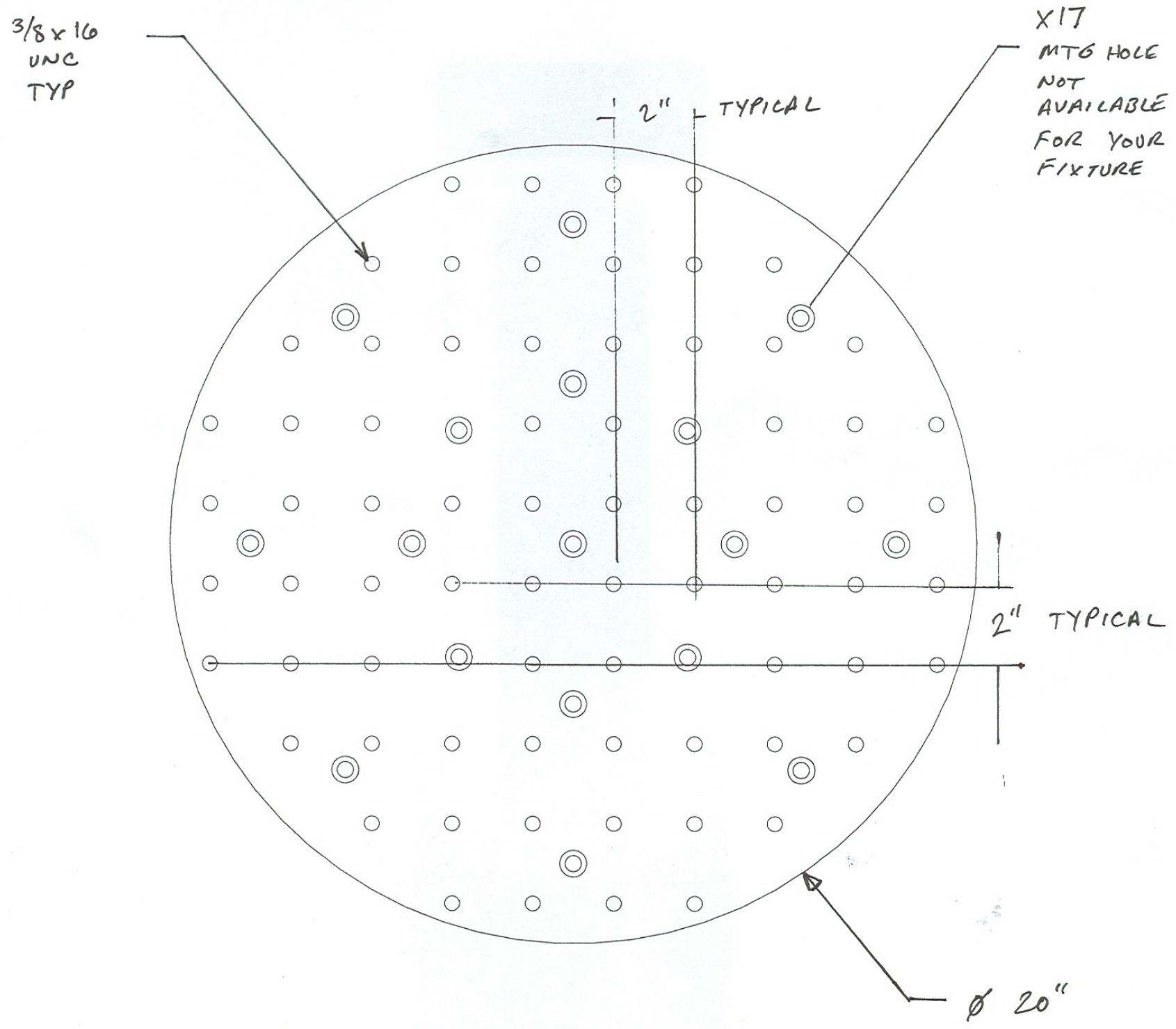
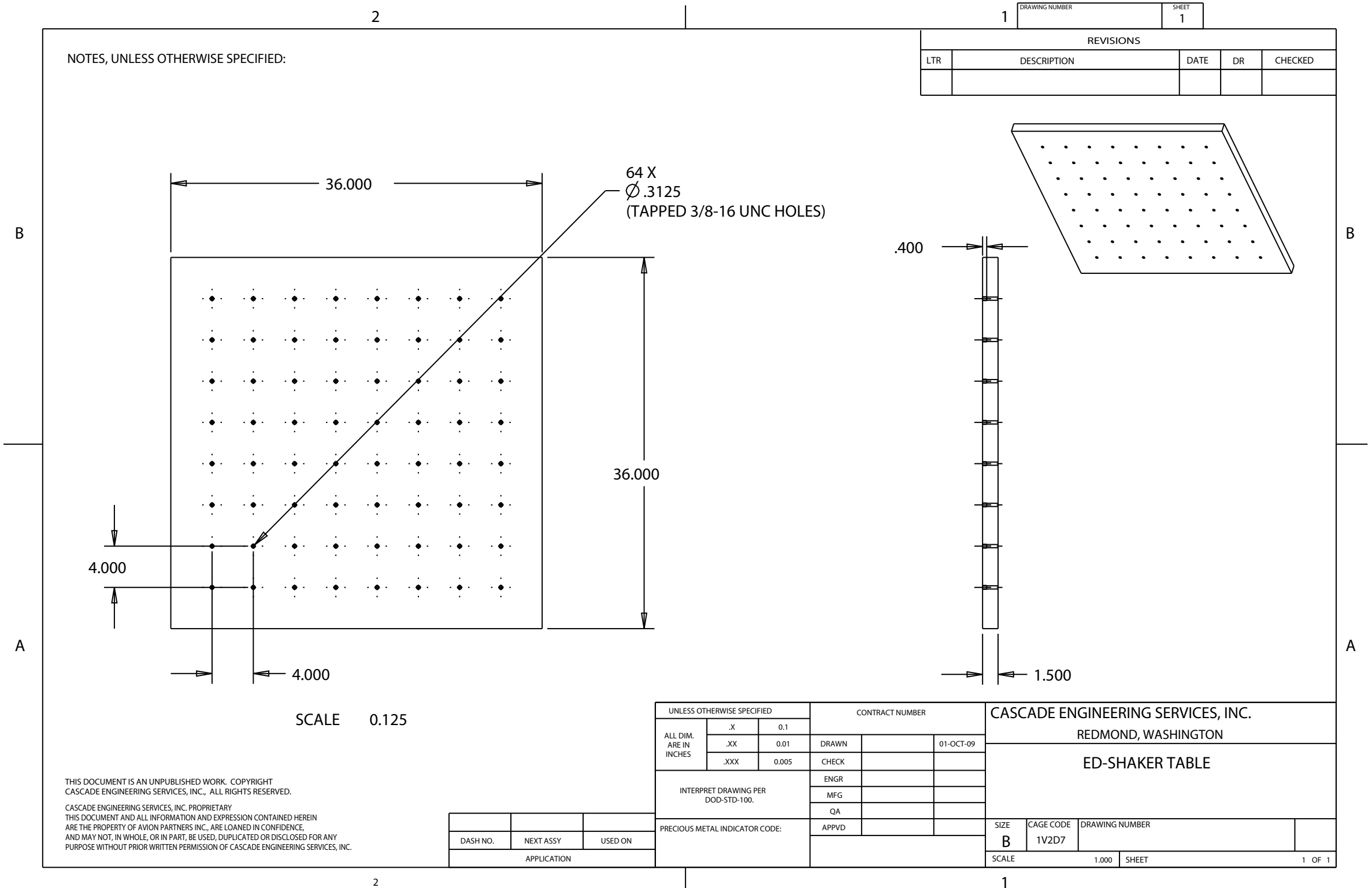


Table Hole Pattern (X & Y Axis Orientation)



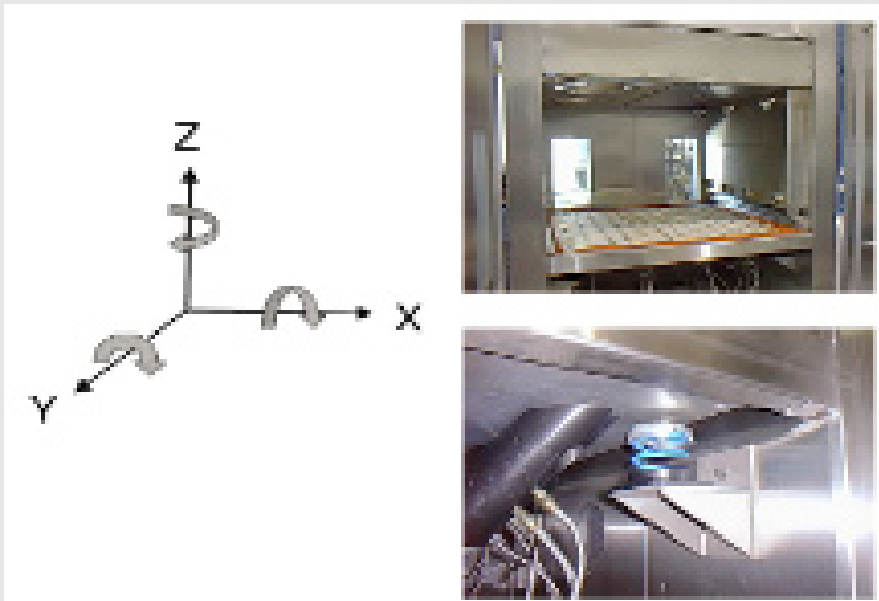
THIS DOCUMENT IS AN UNPUBLISHED WORK. COPYRIGHT
 CASCADE ENGINEERING SERVICES, INC., ALL RIGHTS RESERVED.

CASCADE ENGINEERING SERVICES, INC. PROPRIETARY
 THIS DOCUMENT AND ALL INFORMATION AND EXPRESSION CONTAINED HEREIN
 ARE THE PROPERTY OF AVION PARTNERS INC., ARE LOANED IN CONFIDENCE,
 AND MAY NOT, IN WHOLE, OR IN PART, BE USED, DUPLICATED OR DISCLOSED FOR ANY
 PURPOSE WITHOUT PRIOR WRITTEN PERMISSION OF CASCADE ENGINEERING SERVICES, INC.

HALT (HASS) Chambers



High Vibration Stresses: Six axis (3 linear & 3 rotational)



Application

Provides simultaneous Temperature - Vibration loads for Accelerated testing, Highly Accelerated Life Testing (HALT) and Highly Accelerated Stress Screening (HASS). This testing is useful for product margin testing. The Chamber is Liquid Nitrogen equipped for rapid temperature ramp changes.

HALT Chamber Spec. (Bare Table)

Models:	AST-35-LN2 & TVC-2.3
Manufacturers:	Thermotron & Hanse
Vibration axis:	6 DOF excitation
Frequency Range:	Up to 10 kHz
Temperature Range:	-87 °C to +191 °C
Max Temperature Ramp Rate:	70 °C / min
Maximum Acceleration:	Up to 50 g rms
Workspace Dimensions:	42" W x 42" D x 40" H
Table Size :	30" x 30"
Chamber Temp Monitor Channels:	5 Channels
Chamber Accelerometer DAQ :	3 Channels
Additional Options:	External DAQs available for both Temp & acceleration monitoring

HALT Table Hole Pattern

[Table Hole Pattern](#)

