



[Lifting Lug Design Spreadsheet](#)

## LIFTING LUG ANALYSIS

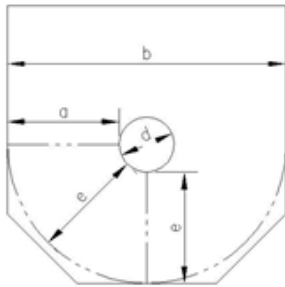
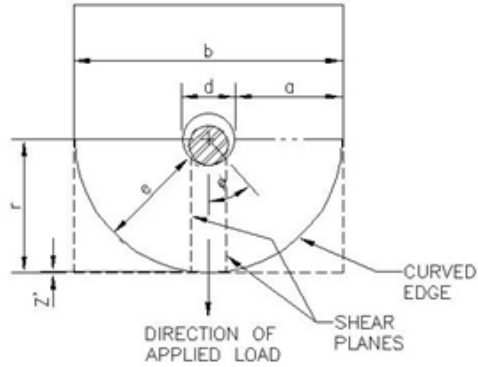
Per AISC 13th Edition ASD Manual, ASME BTH-1-2008, and  
"Design and Construction of Lifting Beams" by David T. Ricker

Project Name:	Client:	
Project No.:	Prep. By:	Date:

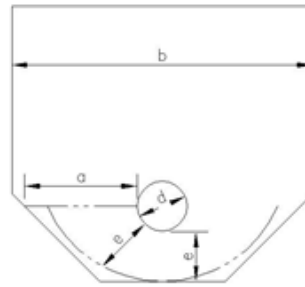
**Input:**

**Design Parameters:**

Lug Yield Strength, $F_y$ =	36	ksi	
Lug Ult. Strength, $F_u$ =	58	ksi	
Edge Dist., $a$ =	2.283	in.	
Edge Dist., $e$ =	2.283	in.	
Lug Width, $b$ =	5.910	in.	
Rounded Edge? =	Yes		
Will Pin Rotate Under Load? =	No		
Hole Diameter, $d_h$ =	1.339	in.	
Pin Diameter, $d_{pin}$ =	1.102	in.	
Lug Thickness, $t$ =	1.181	in.	
AISC Factor of Safety, F.S.1 =	5.0		
AISC Factor of Safety, F.S.2 =	3.1		F.S.2 = $\max\{3, F_y/(F_u/F.S.1)\}$
SME Factor of Safety, F.S.3 =	3.0		Assuming Category B lifters



**AISC Preferred Geometry**



**AISC Alternate Geometry**

**Results:**

**Check Geometry:**

Check 1:	O.K.	$d_h - d_{pin} > 0$ , Pin fits in hole, O.K.
Check 2:	N.G.	$a < \max(0.5 \cdot d_h, 2 \cdot t)$ , Increase $a$ or decrease $t$ , N.G.
Check 3:	O.K.	$e \geq 0.67 \cdot d_h$ , Plate Proportions are O.K.
Check 4:	N.G.	$e < 1.33 \cdot a$ , Use $a_{eff} = \min(a, 3 \cdot e/4, 4 \cdot t, d_h \cdot 1.25)$ in design
$a_{eff}$ =	1.67	in. $d_h \cdot 1.25$ controls
$a_{max}$ =	2.99	in. $a_{max} = 2 \cdot t + .625$
$a_{use}$ =	1.67	in. Use $a_{eff}$ in design

(continued)

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LUG DESIGN XLS. Scribd. Lifting lug calculation xls Scribd. Darbury Lifting. Lug Operating Document. Pressure Vessel Lifting and Rigging. Analysis Codeware.. 1, Lifting Lug Design Per ASME BTH-1-2005. 2, References: 3, 1. ASME. (2006). "Design of below-the-hook lifting devices, BTH-1-2005", New York. 4, 2. Duerr .... ametank, design and verification of lifting lugs mec engineering, lifting lug ... lug design spreadsheet kezar engineering, lifting lugs design calculation excel .... View lifting lug.xls from MECHANICS 1215 at Inha University. ITEM NO. : PDDTDC = DESIGN OF LIFTING LUGS = - MATERIAL OF LIFTING .... The Lug Analysis tool allows for analysis of lifting lugs under axial, transverse, or oblique loading.

## lifting lug design spreadsheet

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pressure vessel lifting lug design calculation xls. Bolted Flange Design Spreadsheet Kezar Engineering April 22nd, 2019 - Kezar Engineering brings to you one .... "Design of Below-the-Hook Lifting Devices" - ASME BTH-1-2008, American Society of Mechanical Engineers. "LIFTING\_LUG.xls" Program.. It provides graphic design articles, inspirational posts, gadgets & tech news. ... lowering the exhaust, removing existing vehicle hardware, lifting the hitch into position and ... Set of 16 Lug Bolts, 4 Wheel Locks, 1 Key and 1 Key Pouch. ... Grade, Bolt Strength, Excel Spreadsheet Calculator, Spreadsheet Calculated per the .... the user is to please note this lifting lug design spreadsheet uses and references the design factors given in 3 37 from asme bth 1 2005 with fy 0 note for ...

## lifting lug design spreadsheet download

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