

## Procedure: Design

### 1. PURPOSE AND SCOPE

- 1.1. The purpose of this procedure is to convert a customer approved design into a complete drawing set in order for the Manufacturing group to be able to produce the final product conveyed conceptually to the customer.
- 1.2. The scope is to finalize calculations and fully detail the approved design into manufacturing drawings for manufacturing to be able to produce the intended product.
- 1.3. The Engineering Manager is responsible for implementation and management of this procedure.

### 2. REVISION AND APPROVAL

Rev.	Date	Nature of Changes	Approved By
N	06/05/2018	Original issue.	Eicher
001	5/31/2024	Reviewed and approved as is	Wagner

### 3. DEFINITIONS

- 3.1. BOM: Bill Of Material
- 3.2. BTH: Below-The-Hook

### 4. PROCEDURE

The Design process must meet the following requirements:

- 4.1. Meet all details of the description of the order.
  - 4.1.1. Notify sales to update the description as needed
- 4.2. Calculations

Beam size	Pin size	Hook size
Shackle size	Material size and type	Bail size
Hole tear-outs		
References, if matching or downsizing an existing BTH design, some or all of the above may be covered by the reference details.		
- 4.3. Nameplate is filled out.
- 4.4. BTH stamp and rating, if applicable
- 4.5. Coating or paint notes, standard block says "Caldwell Yellow."
- 4.6. Any specific stenciling notes. For example: : "VERTICAL SYMETRICAL LOADING ONLY"
  - 4.6.1. BOM table is connected to the top of the drawing border

#### 4.7. BOM

- 4.7.1. Balloons connected to the proper components
- 4.7.2. Sizes matching the component parts
- 4.7.3. Stock# (M1#) matching the components

#### 4.8. Dimensions

Overall L, W, H	Throat	Headroom
Clearances	Hook sizes	Min & Max on variables
Handle sizes	Attachment method	All options
Customer's device to be lifted, if provided, and confirm fit-up		

#### 4.9. Weld symbols

- 4.9.1. Accurate and precise detail of welds
- 4.9.2. Applicable notes in the weld tail. For example, TYP

#### 4.10. Minimal line crossing for BOM balloons, dimensions, weld symbols and any other supplementary information.

#### 4.11. Electrical requirements (if applicable)

- 4.11.1. Power input
- 4.11.2. Connection type
- 4.11.3. Controls, pendant, rigid buttons, crane controls and provider
- 4.11.4. Location of mounted electrical boxes