

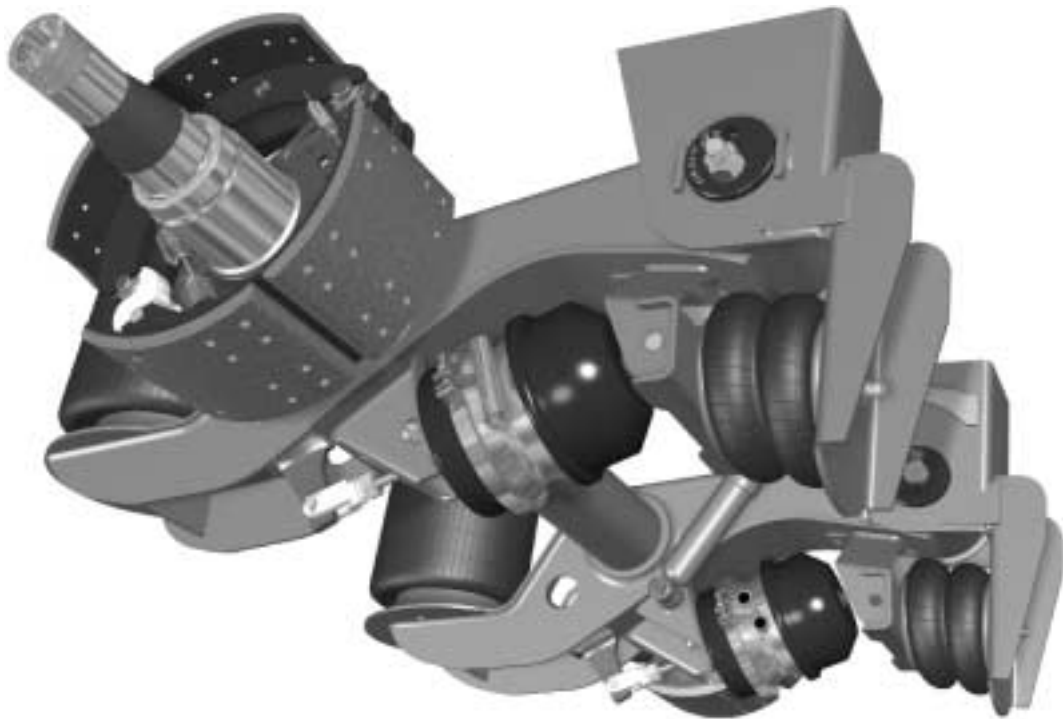
# **H** TECHNICAL PROCEDURE UNDER BEAM LIFT

SUBJECT: Kit Installation Procedures

LIT NO: L719

DATE: December 1999

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*For The Road Ahead*

**H** HENDRICKSON

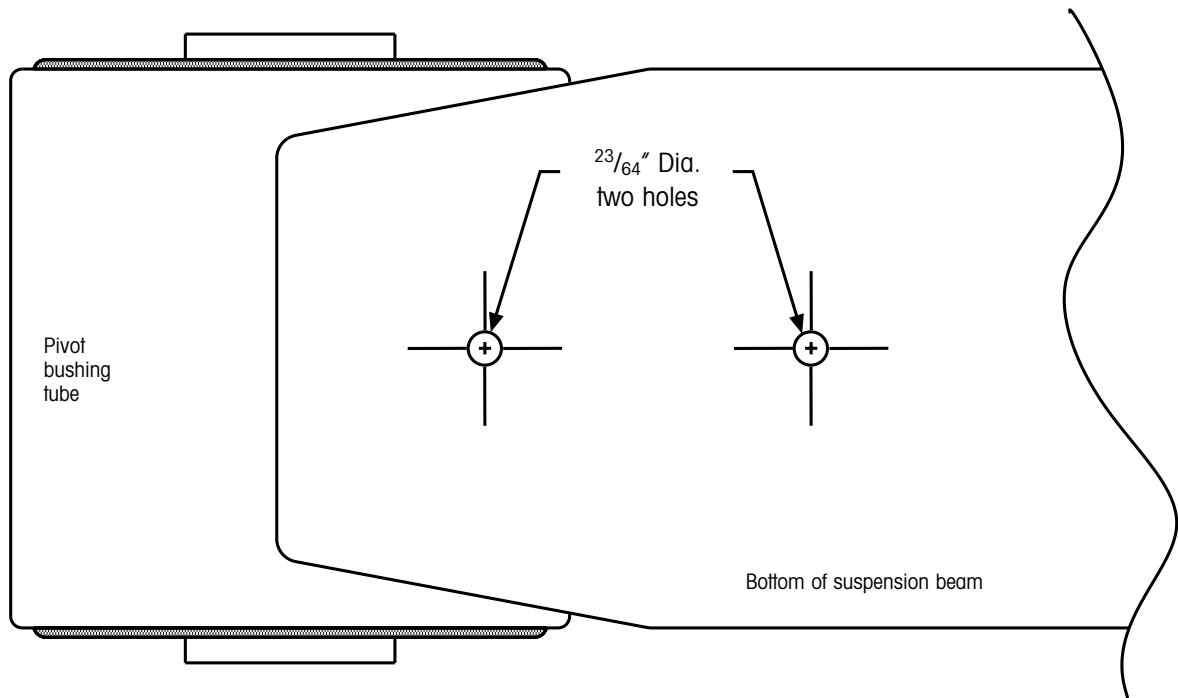


Figure 1. Positioning template(s) on the bottom of the suspension beam

**IMPORTANT:** The lift system may be installed before or after mounting the suspension to a trailer.

1. Before installing the under beam lift kit, read through the supporting documentation that came with this product, such as this publication and assembly drawings.

**IMPORTANT:** Hendrickson Trailer approves the information contained herein as the proper method for installing the under beam lift (UBL) kit on an Hendrickson suspension.

2. Place the trailer on flat, level ground.
3. Chock trailer wheels that will not be removed for the UBL kit installation.

## PREPARING FOR INSTALLATION

1. If brake chambers, cross channels (C-channels) and tires are installed on the suspension, remove these items before installing the under beam lift kit.

**IMPORTANT: DO NOT THROW AWAY** the C-channel; it will be reinstalled.

**IMPORTANT:** By removing the tires, you have access to the frame bracket and the trailing arm.

2. Prepare the UBL kit components, trailing arms and frame brackets for welding. Remove any paint, rust, rust proofing, etc. from the areas where welding will occur; use the assembly drawings to locate these areas.
3. When doing an initial (or OEM) installation, start with the **ALL INSTALLATIONS** section on page 4. When doing a retrofit installation, start in the **RETROFIT INSTALLATIONS ONLY** section below.

## INSTALLING THE UBL KIT RETROFIT INSTALLATIONS ONLY

1. Position the template (Figure 7 on page 7) on the bottom of the suspension beam (Figure 1). Tape the template into place.

**IMPORTANT: USE** only the template (Figure 7) provided for the retrofit installation. **DO NOT USE** photocopies of the template. Photocopies do not allow accurate positioning of the indicated holes and may result in improper installation of the lift bracket.

2. Center punch the two holes as shown on the template. Carefully remove the template.
3. Drill two  $\frac{23}{64}$ -inch holes at the indicated positions on the suspension beam.

# UNDER BEAM LIFT KIT INSTALLATION PROCEDURES

## ALL INSTALLATIONS

1. Measure  $3\text{-}\frac{5}{8}$  inches from the bottom of the frame bracket up and scribe a line across it.
2. Align the scribe line on the frame bracket to the top of the lift hanger support.

**IMPORTANT:** The lift hanger support must be flush with the sides of the frame bracket.

3. Tack weld lift hanger support to the frame bracket (Figure 2).

**IMPORTANT:** Before continuing, review D-24657 *Under Beam Lift Assembly (AAL Suspension Series)* and D-24343 *Under Beam Lift Assembly (INTRAAX® Top Mount Suspensions)* for welding information.

4. Check for proper placement of the lift bracket.

## WELDING THE GUSSETS TO THE LIFT BRACKET

1. Place gusset .6-inch from the bottom of the frame bracket and forward .6-inch onto the lift bracket.
2. Weld into place with fillet welds (Figure 3).
3. Start and stop weld passes  $\frac{1}{4}$  inch from all sides (Figure 3). Fill in all craters at the end of each weld pass.

**IMPORTANT:** Weld  $\frac{1}{4}$ -inch gussets to both sides of the frame bracket.

## INSTALLING THE LIFT BRACKET

1. Install lift bracket to the bottom of the beam with two self-tapping screws (Figure 4). Torque the screws to 160 to 180 in-lbs (18 to 20 N•m).
2. Weld lift bracket to the beam; refer to the weld symbols on the drawing to properly weld it (Figure 5 on page 6 and the assembly drawing).

## INSTALLING THE C-CHANNEL

**IMPORTANT:** If the suspension has wingless frame brackets, install a C-channel across the wingless frame brackets. If a C-channel was originally on the suspension, reinstall it at this time. The C-channel dimensions are 3-inches by 41-inches ASTM A-36.

1. Position the C-channel on top of the hanger support bracket (Figure 6 on page 6 and the assembly drawing).
2. Weld the C-channel in place (Figure 5 and the assembly drawing).

## INSTALLING THE BRAKE CHAMBERS

1. Reinstall the brake chambers; torque the mounting bolts to 100 to 110 ft-lbs (136 to 149 N•m).

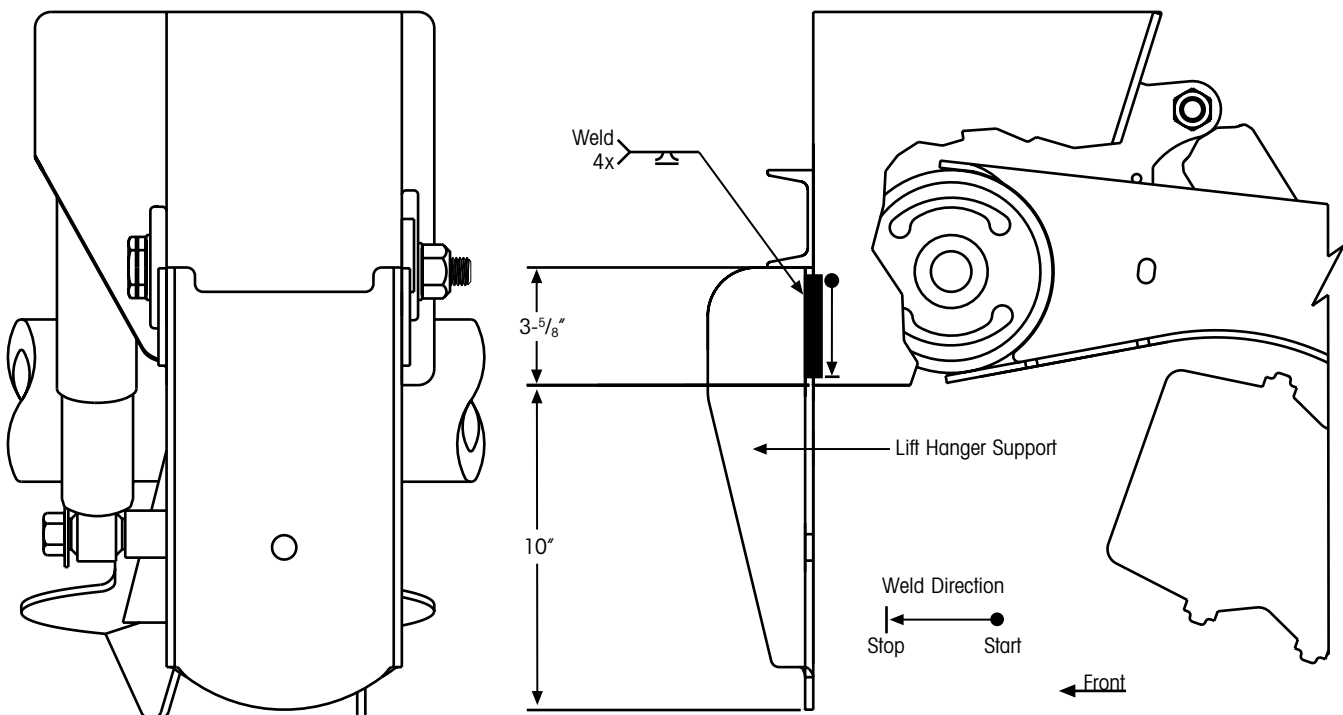
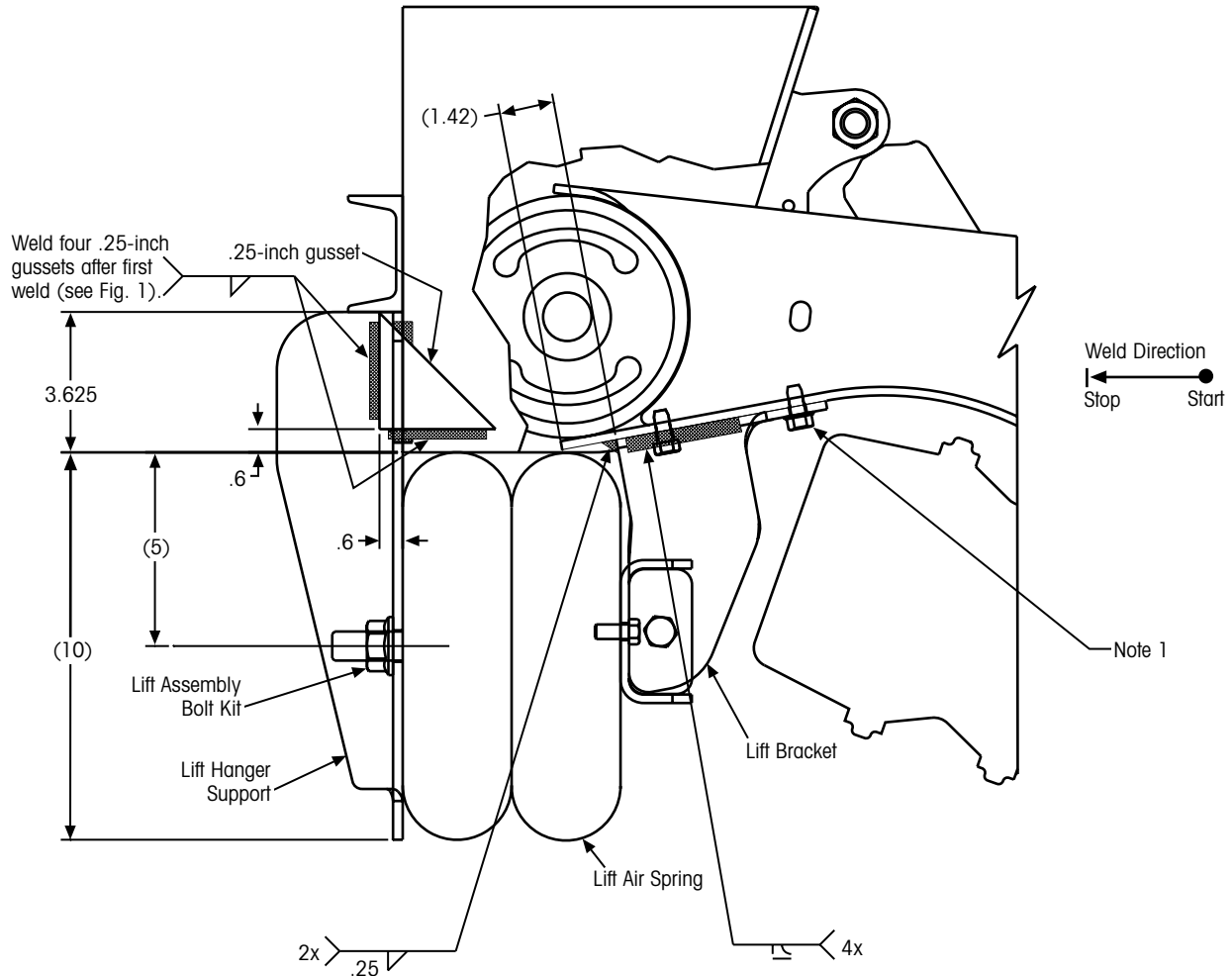


Figure 2. Welding the lift hanger support

# UNDER BEAM LIFT KIT INSTALLATION PROCEDURES



**NOTES:**

1. When using long-stroke brake chambers, it may be necessary to remove the rear self-tapping screw after completing the welding operation.
2. When installing the channel assembly, the lift bracket may cause interference. If interference occurs, compress the legs of the lift bracket with a C-clamp and resume installing the channel assembly.
3. Welding parameters:
  - 28.5 Volts
  - 400 IPM
  - 275-300 Amps
  - 35 CFH (Gas flow)
  - .045 Wire

Figure 3. General welding instructions

**WARNING:** Self-tapping screws are for locating the lift bracket only. Weld the lift bracket as shown in figure 3 and the assembly drawing.

**IMPORTANT:** Remove channel assemblies (two 1/2-inch bolts at 65 ft-lbs of torque) to install or remove the parking brake chambers, but this does not apply to service brake chambers.

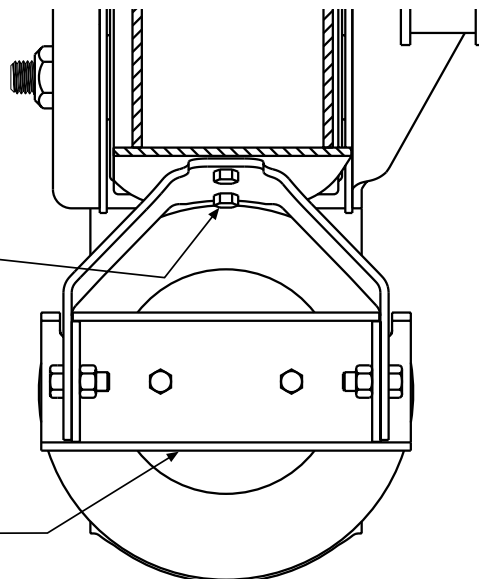


Figure 4. Positioning the lift bracket

# UNDER BEAM LIFT KIT INSTALLATION PROCEDURES

**IMPORTANT:** If installing long-stroke brake chambers, it may be necessary to remove the rear self-tapping screws.

## INSTALLING THE LIFT COMPONENTS

1. Install the lift air spring onto the lift spring channel assembly; torque to a value of 25 to 35 ft-lbs (34 to 47 N•m).
2. Attach the combo stud to the lift hanger support; torque to a value of 45 to 55 ft-lbs (61 to 75 N•m).
3. Install the nuts and bolts to the lift bracket; torque to a value of 55-75 ft-lbs (75 to 102 N•m).
4. Install air lines and the air kit for operating the lift.

## REINSTALLING THE TIRES

1. Reinstall the tire; tighten the lug nuts to the torque recommended in the manufacturer's specifications.

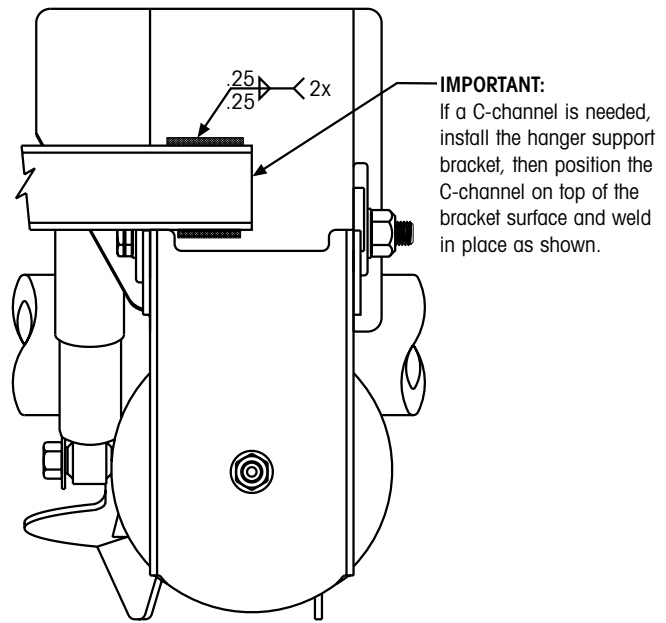


Figure 6. Installing the C-channel

## NOTES:

1. Start and stop welds .25 inch from the edges of the lift bracket.
2. The welds hidden by the lift bracket are shown in this view for clarity.
3. The lift air spring is not shown in this view for clarity of the welding.

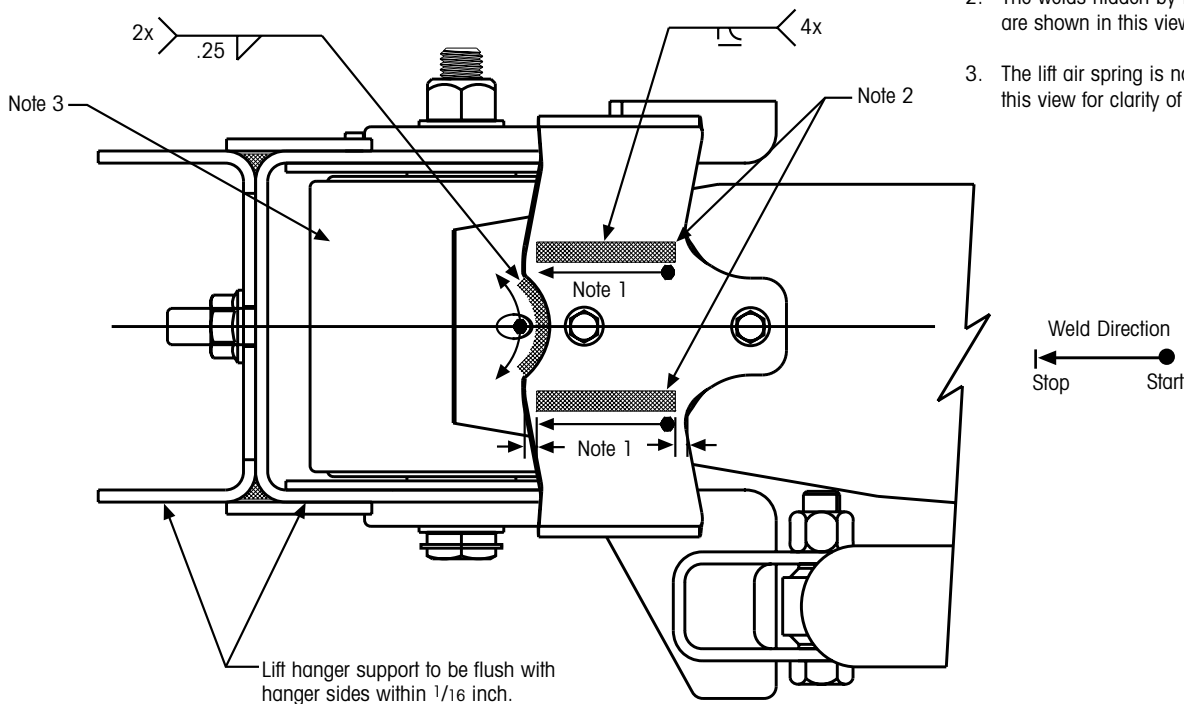


Figure 5. Welding the lift bracket

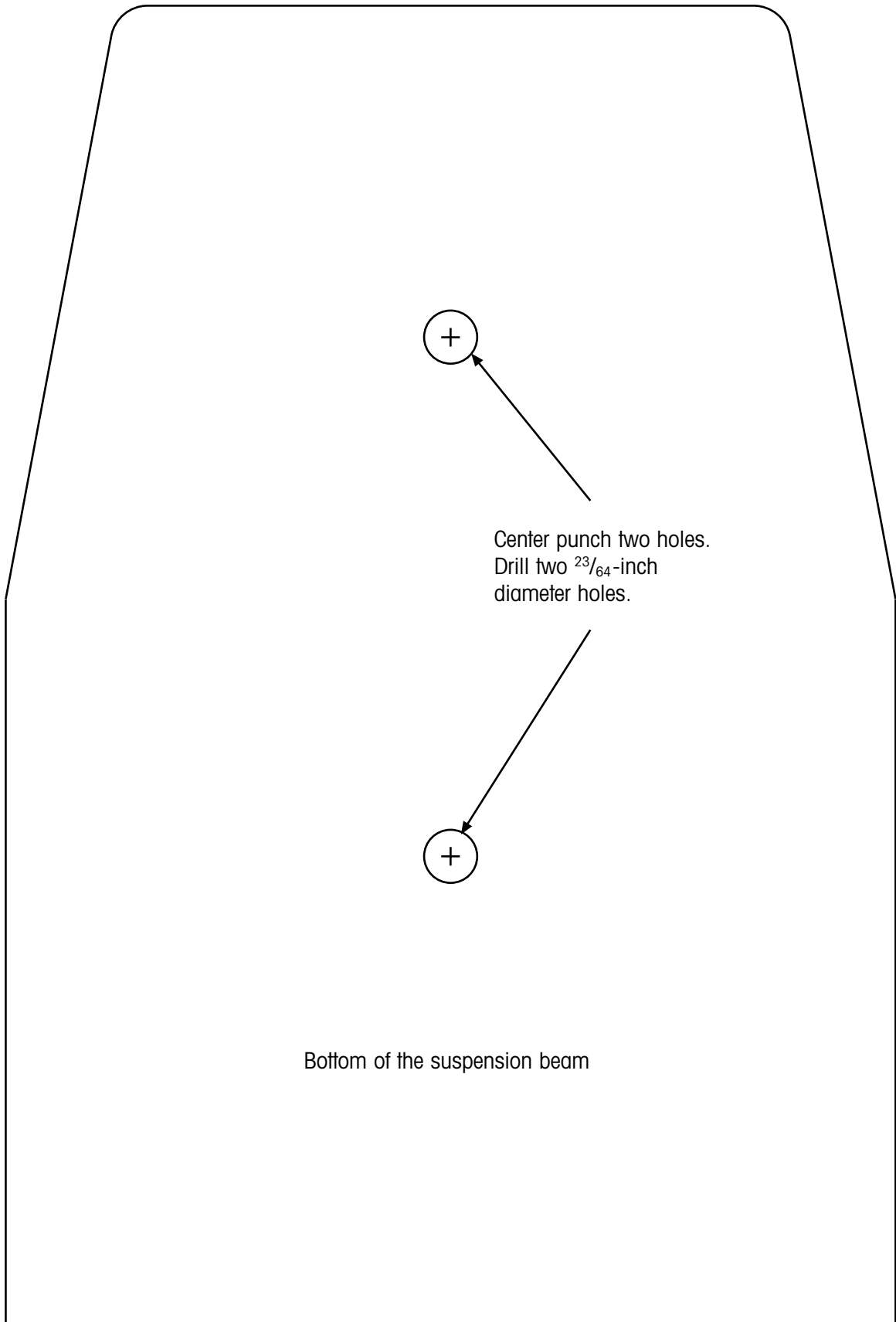


Figure 7. Hole template for placement of the lift bracket

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