

## Eaton B422-1 1/2AL

# Eaton B-line Series B422-1 1/2AL Right Angle Beam Clamp Instruction Manual

Model: B422-1 1/2AL

## 1. INTRODUCTION

This manual provides comprehensive instructions for the safe and effective installation, operation, and maintenance of the Eaton B-line Series B422-1 1/2AL Right Angle Beam Clamp. This aluminum clamp is designed for securing pipes or conduits to structural beams at a right angle, offering a robust connection with a specified load capacity.

Please read this manual thoroughly before installation and retain it for future reference. Adherence to these instructions will ensure proper function and safety.

## 2. SAFETY INFORMATION

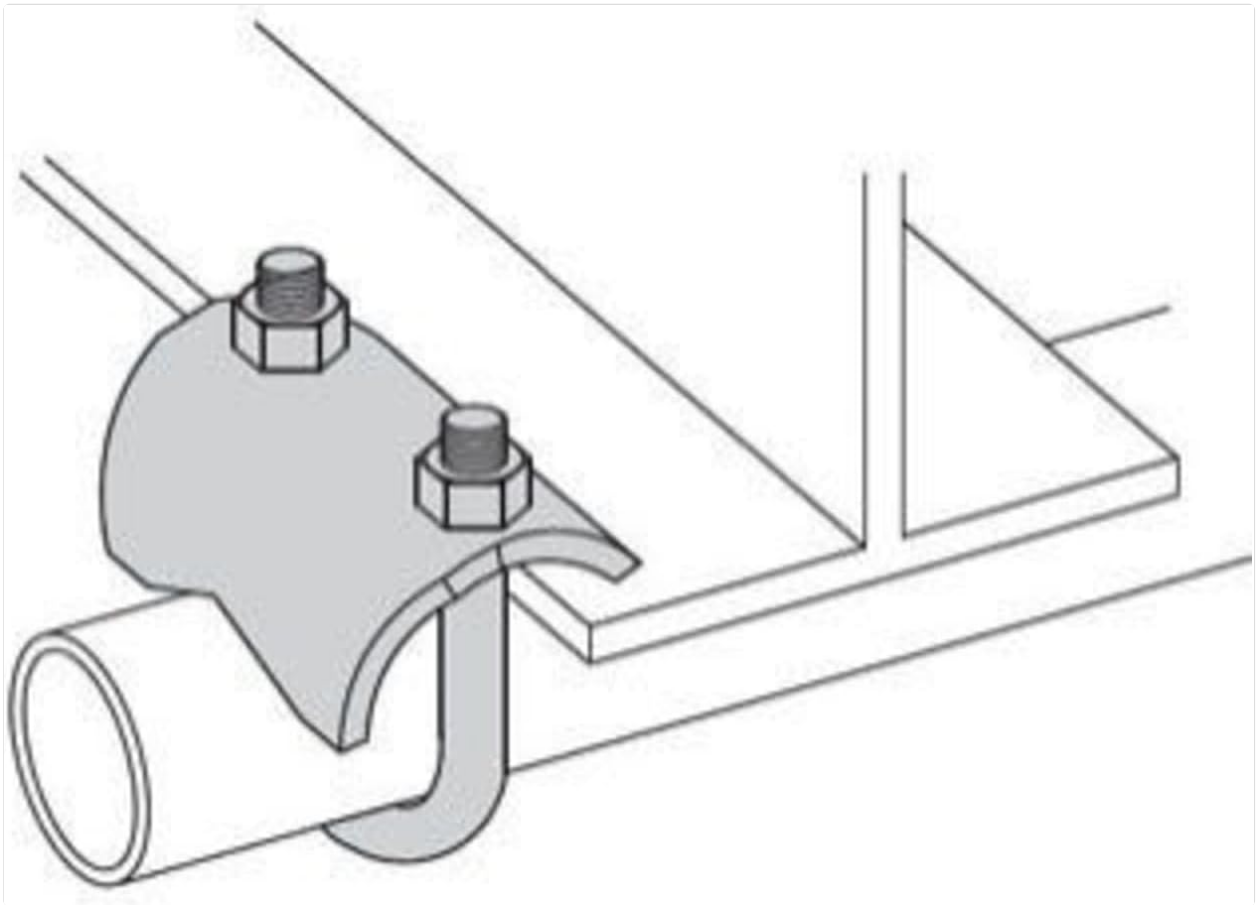
**WARNING: Failure to follow these safety instructions may result in property damage, serious injury, or death.**

- Always wear appropriate personal protective equipment (PPE), including safety glasses and gloves, during installation.
- Ensure the structural beam and the pipe/conduit are capable of supporting the combined weight of the clamp, attached items, and any potential loads.
- Do not exceed the maximum rated load capacity of 500 lbs for this clamp.
- Verify that all bolts and nuts are securely tightened to the manufacturer's recommended torque specifications (if available, otherwise ensure firm tightness without over-tightening).
- Inspect the clamp and surrounding structure regularly for signs of wear, corrosion, or damage. Replace damaged components immediately.
- Installation should be performed by qualified personnel familiar with local building codes and safety regulations.

## 3. PRODUCT COMPONENTS

The Eaton B-line Series B422-1 1/2AL Right Angle Beam Clamp typically consists of the following components:

- Main clamp body (aluminum)
- U-bolt or similar pipe-securing mechanism
- Mounting bolts and nuts (quantity as required for secure fastening)



**Figure 1:** Illustration of the Eaton B422-1 1/2AL Right Angle Beam Clamp in an installed configuration.

This illustration demonstrates the correct installation of the Eaton B422-1 1/2AL Right Angle Beam Clamp. It shows the clamp securing a cylindrical pipe to the flange of a structural beam using two bolts and nuts. The clamp body is positioned over the beam flange, and the pipe is cradled by the U-shaped portion of the clamp, secured by the bolts.

## 4. SETUP AND INSTALLATION

1. **Identify Mounting Location:** Select a suitable structural beam that can safely support the intended load. Ensure the beam flange is compatible with the clamp's design.
2. **Position the Clamp:** Place the main body of the B422-1 1/2AL clamp over the edge of the structural beam's flange. The curved portion designed to hold the pipe should face downwards.
3. **Insert Pipe/Conduit:** Carefully position the 1 1/2-inch pipe or conduit into the U-shaped cradle of the clamp.
4. **Secure Fasteners:** Insert the provided bolts through the clamp body and the pipe-securing mechanism. Thread the nuts onto the bolts.
5. **Tighten Connections:** Using appropriate tools, gradually tighten the nuts evenly until the clamp firmly grips both the beam and the pipe. Avoid over-tightening, which can damage the clamp or the pipe. Ensure the clamp is stable and does not wobble.
6. **Final Inspection:** Visually inspect the installed clamp to confirm it is properly seated, all fasteners are tight, and the pipe is securely held.

## 5. OPERATING INSTRUCTIONS

The Eaton B422-1 1/2AL beam clamp is a static support device. Its "operation" primarily involves ensuring it remains securely installed and within its load limits.

- **Load Capacity:** Do not subject the clamp to loads exceeding 500 lbs. This rating includes the weight of the pipe/conduit and any contents or attached equipment.
- **Dynamic Loads:** This clamp is designed for static loads. Avoid applications involving significant vibration, shock, or dynamic forces unless specifically engineered for such conditions.
- **Environmental Considerations:** Ensure the clamp is used in environments compatible with aluminum construction. Avoid exposure to corrosive agents that could compromise material integrity.

## 6. MAINTENANCE

Regular maintenance ensures the longevity and safety of the beam clamp.

- **Periodic Inspection:** Conduct visual inspections at least annually, or more frequently in harsh environments or high-stress applications. Check for:
  - Loose fasteners.
  - Signs of corrosion, cracks, or deformation on the clamp body or fasteners.
  - Damage to the pipe or beam at the clamping point.
- **Tighten Fasteners:** Re-tighten any loose bolts and nuts to ensure secure attachment.
- **Cleaning:** Clean the clamp as needed to remove dirt, dust, or debris that could obscure damage or contribute to corrosion.
- **Replacement:** If any part of the clamp shows significant wear, damage, or corrosion, replace the entire clamp assembly. Do not attempt to repair damaged clamps.

## 7. TROUBLESHOOTING

This section addresses common issues that may arise with beam clamp installations.

- **Clamp is Loose:**
  - **Cause:** Fasteners not tightened sufficiently or have loosened over time.
  - **Solution:** Re-tighten all bolts and nuts securely. If loosening persists, consider using thread-locking compound (if compatible with materials and environment) or consult a professional.
- **Pipe/Conduit Slipping:**
  - **Cause:** Insufficient clamping force, incorrect pipe size, or excessive load.
  - **Solution:** Ensure fasteners are tight. Verify the pipe diameter is 1 1/2-inch for optimal fit. Reduce the load if it exceeds the clamp's capacity.
- **Visible Damage to Clamp:**
  - **Cause:** Overloading, impact, or material fatigue.
  - **Solution:** Immediately remove the clamp from service and replace it with a new, undamaged unit. Do not use damaged clamps.

## 8. SPECIFICATIONS

Attribute	Specification
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Manufacturer	Eaton Electrical
Model Number	B422-1 1/2AL
Part Number	B422-1 1/2AL
Material	Aluminum
Pipe/Conduit Size Compatibility	1 1/2-inch
Maximum Rated Load	500 lbs
Safety Factor	5
Item Package Quantity	1




## 9. SUPPORT AND CONTACT INFORMATION



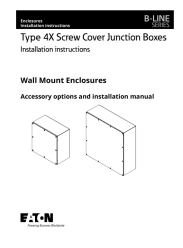
For technical assistance, product inquiries, or to report issues, please contact Eaton Electrical customer support. Refer to the official Eaton website for the most current contact details and additional product resources.

**Eaton Electrical Official Website:** [www.eaton.com](http://www.eaton.com)

*Please note that product specifications and information are subject to change without notice. Always refer to the latest documentation provided by the manufacturer.*

### Related Documents - B422-1 1/2AL

	<p><a href="#">Eaton Aerospace Master Technical Publications Index List</a></p> <p>A comprehensive index of technical publications for Eaton Aerospace products, detailing part numbers, model numbers, document types, issue dates, aircraft platforms, and manufacturing sites. This list serves as a crucial resource for maintaining and servicing aerospace components.</p>
	<p><a href="#">Eaton B-Line Series Seismic Bracing Products Catalog</a></p> <p>Comprehensive catalog of Eaton's B-Line Series seismic bracing products, including attachments, anchors, rods, and accessories for fire protection, mechanical, electrical, and plumbing systems. Features detailed specifications, approvals, and installation guidance.</p>
	<p><a href="#">Parallel UPS Systems: Enhancing Capacity and Redundancy with Eaton's HotSync Technology</a></p> <p>Explore the benefits and technical aspects of parallel Uninterruptible Power Supply (UPS) systems for increased capacity and redundancy. This white paper details Eaton's innovative HotSync paralleling technology, contrasting it with traditional methods and highlighting its advantages in reliability, control, synchronization, and load balancing for critical power applications.</p>

 A thumbnail image of a document titled "Eaton UPS Service Options Quick guide". It features a header with the Eaton logo and a list of service options including extended warranties, remote monitoring, and on-site support. The document is presented in a clean, professional layout with a blue and white color scheme.	<p><a href="#">Eaton UPS Extended Warranties and Services Guide</a></p> <p>A comprehensive guide to Eaton's extended warranties, remote monitoring services, and on-site support options for a wide range of UPS and ePDU products. Details service packages, coverage, and product compatibility.</p>
 A thumbnail image of a document titled "Eaton 5P1150I UPS: 1150 VA, 770 W - Product Specifications and Features". It shows a header with the Eaton logo and a list of features including 1150 VA/770 W capacity, line-interactive topology, sine wave output, 8 C13 receptacles, and advanced battery management. The document is presented in a clean, professional layout with a blue and white color scheme.	<p><a href="#">Eaton 5P1150I UPS: 1150 VA, 770 W - Product Specifications and Features</a></p> <p>Detailed specifications for the Eaton 5P1150I Uninterruptible Power Supply (UPS). Features include 1150 VA/770 W capacity, line-interactive topology, sine wave output, 8 C13 receptacles, and advanced battery management. Includes information on general specifications, product details, compliances, certifications, resources, and technical data.</p>
 A thumbnail image of a document titled "Eaton B-LINE SERIES Type 4X Screw Cover Junction Boxes Installation Instructions". It features a header with the Eaton logo and a list of features including wall mount enclosures, accessory options, and installation manual. The document is presented in a clean, professional layout with a blue and white color scheme.	<p><a href="#">Eaton B-LINE SERIES Type 4X Screw Cover Junction Boxes Installation Instructions</a></p> <p>Comprehensive installation guide for Eaton B-LINE SERIES Type 4X Screw Cover Junction Boxes, detailing specifications, safety precautions, screw installation, and mounting options for wall mount enclosures.</p>