

# HYBRID PORTABLE BRIDGE INSTALLATION





# MUSTANG EXTREME'S HYBRID PORTABLE BRIDGE

## ENGINEERED TO WITHSTAND THE RIGORS OF INSTALLATION

The hybrid bridge is designed to accommodate crossings over waterways and other spanning applications up to 60'. A standard 60' hybrid bridge covers a 52' span with 4' for the abutments on each end of the span.

Constructed in partial-width by full-length modular units with guardrails and decks pre-installed, they efficiently bolt together - in a matter of hours.

Featuring tapered ends, heavy-duty towbars and additional reinforcing, they are designed to facilitate handling with excavation and forestry equipment.

Engineered to withstand the rigors of installation at multiple sites, they are also suitable for permanent installations.

## SAFETY PROTOCOL

- Always use proper PPE: Steel-toes boots, hard hat, gloves and safety vest.
- Be aware and make note of unstable ground conditions and slip hazards.
- Always be aware of personnel and equipment location and movement.
- Locate overhead power lines, trees, and other potential obstacles or obstructions.
- Establish communication protocols with the crew.
- Be aware of other contractors' equipment and personnel at the site.



## HYBRID BRIDGE TRANSPORT

Depending on the size and weight of the bridge, the section may be delivered on two flatbed trucks, or stacked on one truck.



## ABUTMENT AND BEARING REQUIREMENTS

Abutment and bearing requirements are dependent on the stability of the stream banks and local soil conditions. It is the customer's responsibility to determine the appropriate level of analysis for their specific use. Simple abutments often utilized include timber crane mats and road plates.

Since bridges are typically used for temporary site access with limited traffic volume, most customers do not perform a formal analysis, but rely on their construction expertise to evaluate the abutment locations prior to installation.

**Examples of bearing surfaces used successfully include:**

- precast concrete blocks
- timber mats
- rock-filled gabion baskets
- crushed stone pads

They may also be placed on native ground. Typically, a minimum of 4 feet of solid contact with abutment supports is needed under each side of the bridge.



## OFFLOADING THE BRIDGE/RIGGING

The bridge skids/drags best when it is in the open position. Regardless of whether the bridge is being skidded folded or open, care should be taken to ensure hinges and diaphragms are not damaged during the process.

The tow bars located at each end of the bridge are the attachment points for rigging – whether picking up the bridge with a crane and setting it into place, or skidding it into position with an excavator. Never use the guardrail as a pick point.



## SETTING THE BRIDGE AND PREPARING FOR BOLT-UP

Set each section in place on the bearing surface then roughly align in preparation for bolt-up.



## BOLTING THE SECTIONS TOGETHER COMPLETING THE INSTALLATION

- Align the two sections and install the “splice bolts” working from one end to the other.
- Both bolts and nuts require an 1-1/4” wrench.
- Bolts should be installed to a “snug-tight” condition.
- Previously torqued bolts should be rechecked to ensure they have not loosened due to tightening of adjacent fasteners.
- Install center panels using the “T-handles” provided. The panels are interchangeable.



# RAMPING THE BRIDGE

For longer term installation, soil and stone ramps can be covered with a topping of asphalt. At the abutment or end bearing locations, or bridge access points, the change in elevation can be achieved with ramps.

## Typical materials used for ramps include:

- Compacted soil
- Graded aggregate base
- Mulch
- Wood chips
- Crane mats



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