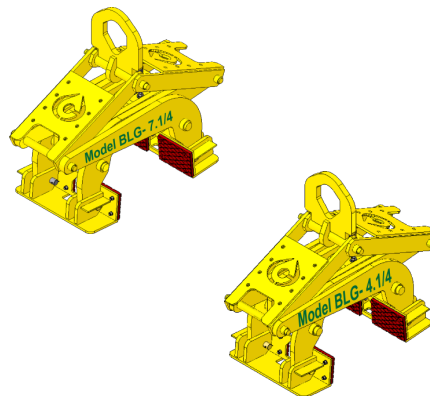




# **RIG-MASTER®** **Rigging Attachments**

Instruction Manual

## **Model BLG** **Heavy Duty Barrier Grab**



**ASME B30.20 BTH 1**  
**Design Category B**  
**Service Class 3**



**⚠ WARNING**

All qualified persons responsible for assembly, disassembly, operation, inspection, and maintenance shall read and understand all the contents of this manual to avoid serious injury, death, or property damage. Keep this manual.

Your new heavy duty barrier grab or barrier grab kit is a pressure gripping lifter, which only supports loads up to the maximum capacity when loaded correctly. The barrier grab or barrier grab kit is for specific tasks, withstanding forces based on the unit's maximum capacity. Use the following guidelines in this manual for your protection and for optimal operation of your equipment.

The safety information listed in this manual is not all-inclusive. The owner or user is responsible for understanding and acting according to industry standards and any other location, city, state, and federal regulations.

**Record your Serial Number:**

\_\_\_\_\_

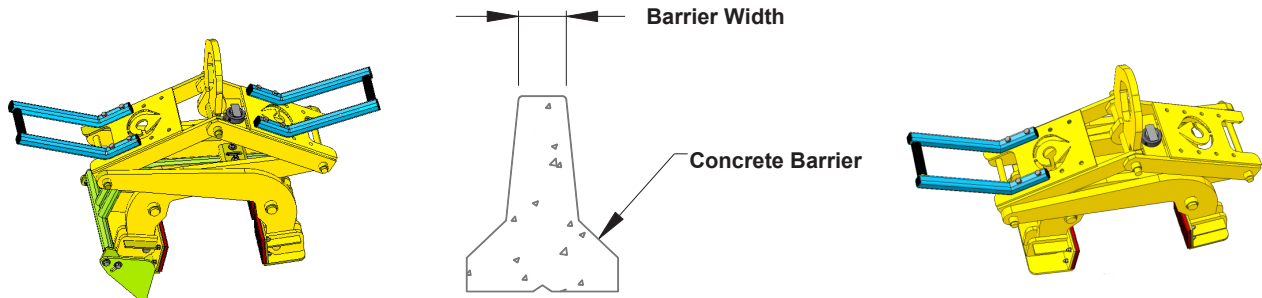
**ASME B30.20 BTH-1 for both Barrier Grabs, Model BLG-4.1/4 and Model BLG-7.1/4, is Design Category B, Service Class 3.**

**The Caldwell Group**  
PH 800-628-4263

Rated Cap	<input type="text"/>	Lbs
Model No	<input type="text"/>	
Serial No	<input type="text"/>	
Unit Wt	<input type="text"/>	Lbs

ASME B30.20 BTH 1

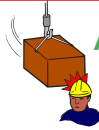
Design Category   B   Service Class   3



Model Number	Rated Capacity (lbs)	Polyurethane Pads	Optional Steel Dog Point Pads	Auto Latch	WEIGHT (lbs)	BARRIER WIDTH (inches)
BLG-4.1/4	8,500	70-0897 (Pad Only) 67-01409 (Kit w/ Hardwr)	70-1028-1 (Pad Only) 67-1062 (Kit w/ Hardwr)	70-5047 (Auto Latch Only) 70-5056 (Kit w/ Hardwr)	550	6 to 12
BLG-7.1/4	14,500				600	6 to 12

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## **⚠ WARNING**

### **GENERAL**

The fundamental objective of the following safety suggestions is to protect authorized, qualified persons responsible for installation, operations, and inspection of the Heavy Duty Barrier Grab and Heavy Duty Extended Barrier Grab Kit from serious injury or death. The owner or user is responsible for providing all proper devices, tools and methods that may be necessary to effectively protect each employee from recognized hazards, during installation, operation, maintenance, or servicing. The safety precautions stated in this manual are not all-inclusive. The owner or user is responsible for understanding and acting according to industry standards and regulations—and any other applicable local, city, state, or federal regulations.

### **TRAINING**

Authorized, qualified individuals need comprehensive training in the use of protective equipment, safeguards, and safe operation of the Heavy Duty Barrier Grab or Heavy Duty Extended Barrier Grab Kit. Permit only authorized, qualified people to operate, maintain, and service your Heavy Duty Barrier Grab and Heavy Duty Extended Barrier Grab Kit.

### **PERSONAL PROTECTION**

Personal protective equipment is required whenever there are hazards that can do bodily harm through physical contact. The construction requirements of all personal protective equipment must be concurrent to the work performed.

## **⚠ DANGER**

DANGER indicates a hazardous Situation which, if not avoided, **will** result in death or serious injury.

## **⚠ WARNING**

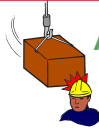
WARNING indicates a hazardous situation which, if not avoided, **could** result in death or serious injury.

## **⚠ CAUTION**

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, **could** result in minor or moderate injury.



This is the safety alert symbol. It is used to alert you to potential *personal injury* hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

**⚠ WARNING****Before Initial Operation**

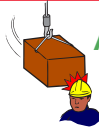
- Request each operator to read and understand this instruction manual.
- Inspect the lifter.
- Confirm the lifter is assembled correctly and all components are securely fastened.
- Test the lifter before initial use.
- Refer to ASME B30.9 for additional rigging information.

**Operating Practices**

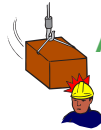
- Verify each operator has training in proper lifting techniques, using the Heavy Duty Barrier Grab or Heavy Duty Extended Barrier Grab Kit.
- Request each operator to demonstrate proper lifting techniques, using the Heavy Duty Barrier Grab or Heavy Duty Extended Barrier Grab Kit.
- The following conditions **reduces** the friction between the lifter's pads and the barrier, when using the Heavy Duty Barrier Grab or Heavy Duty Extended Barrier Grab Kit, causing **load loss** :

***Debris, water, oil, ice, or snow is on the concrete barrier or barrier grab.***

- Remove any debris, water, oil, ice, or snow, from the concrete barrier and the barrier grab.
- Use the steel, dog point lifting pads when lifting painted or coated concrete barriers.
- Barricade people from swing zones, fall zones, and crush zones.
- Obey stop signals from anyone.
- Prohibit any person from riding on the load or lifter.
- Forbid any person from standing next to the Heavy Duty Barrier Grab or Heavy Duty Extended Barrier Grab Kit, while under tension.
- Do not use the handle to pull a loaded barrier grab.
- Inspect the load, making sure nothing can fall from the load, during the lifting cycle.
- Use the lifter to raise, lower, and transport loads only within the lifter's specific load dimensions and rated capacity.
- The operator shall ensure the load can withstand forces applied by the lifter.
- Verify all lifter adjustments are correct and secure.
- Confirm the load weight does NOT exceed the lifter's rated capacity.
- Confirm the combined lifter and load weight does NOT exceed the hoist's rated capacity.
- Assure the auto latch is ***latched open*** before transporting an unloaded grab or grab kit.
- Use **ONLY** symmetrical attachment loading.
- Center the lifter, aligning the lifter's center with the load's center of gravity, lengthwise and widthwise.
- Lift only balanced loads.
- Confirm the lifter is securely gripping the load and properly seated in lifting hook.
- Confirm the load is ready for the lifting cycle.
- Verify the transport area is clear of people and objects before the lifting cycle begins.

*Safety**Information***⚠ WARNING****Lifting Cycle**

- Do NOT lift an unsafe or unbalanced load.
- Perform a test lift of several inches, confirming the grab or grab kit is securely gripping the load and load attachment is symmetrical.
- If the test lift fails, slowly, set the load down, re-adjust the load or lifter until all adjustments are correct.
- Do NOT use a lifter labeled with an “Out of Service” tag.
- Use ONLY a vertical lift, bail and hoist center must be 90 degrees to horizontal.
- Do NOT lift at angles less than or greater than 90 degrees to horizontal, using this method voids your warranty.
- Start lifting the load slowly and gently.
- Raise, lower, or transport the load ONLY over specified areas.
- Avoid swinging loads—Transport the load slowly.
- Do NOT use shock loading or side loading.
- Do NOT drag the load along the ground.
- Do NOT pull a load.
- Do NOT use the lifter to pull concrete products out of the ground.
- Prohibit people from standing or under a suspended load.
- Prohibit operators from leaving a suspended load unattended.
- Slowly, lower the load.
- Set the load down gently.



**⚠ WARNING**

**Inspecting**

- An appointed person shall visually inspect the lifter on a daily or weekly schedule, depending on the severity of service.
- Establish a regular inspection schedule:

**every lift inspection**

Visual examination by the operator before and during each lift.

**frequent inspection**

Visual examination by the operator or other designated persons—records not required.

Normal service..... monthly  
Heavy service.....weekly to monthly  
Severe service.....daily to weekly  
Special or infrequent service.....qualified person recommendation

**periodic inspection**

Visual inspection by a qualified person, keeping records for continuing evaluations.

Normal service..... monthly  
Heavy service.....weekly to monthly  
Severe service.....daily to weekly  
Special or infrequent service.....qualified person recommendation

**Inspect for:**

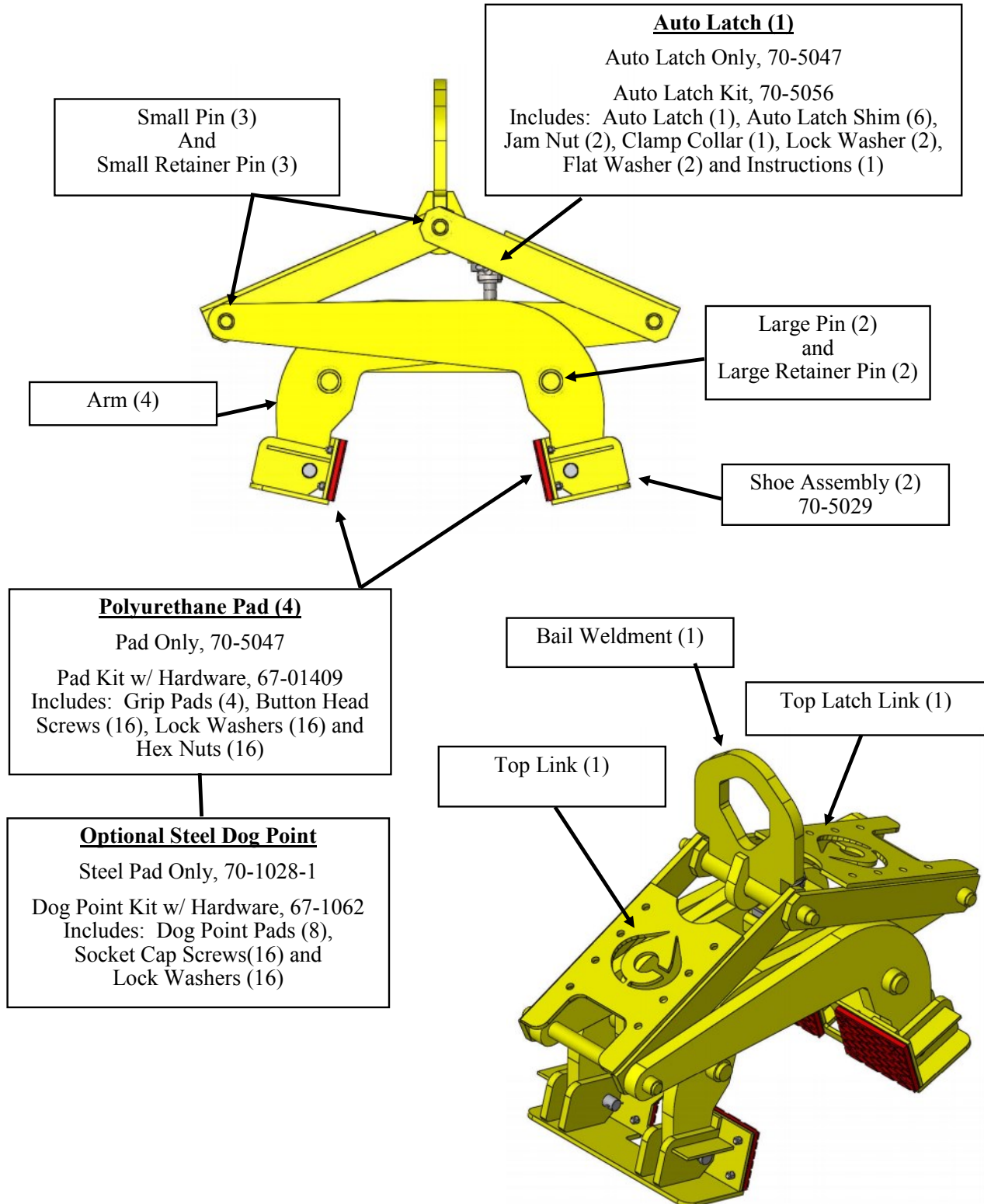
- Loose fasteners.
- Faulty operation.
- Damage, wear, or defects on hoist hooking points, fasteners, linkages, friction pads, load supporting pins, bails, welds, and mechanical parts.
- Damaged, worn, or missing identification and product safety labels.
- Debris, water, oil, sand, ice, or snow on the load surface or the grab.
- Before using the grab for lifting and transporting a load, remove all debris from the concrete barrier and the grab or extended grab kit.

*Modifications to your lifting equipment without prior, written approval from The Caldwell Group VOIDS your warranty.  
Refer to ASME 30.20, regarding liability of repaired and modified lifters.*

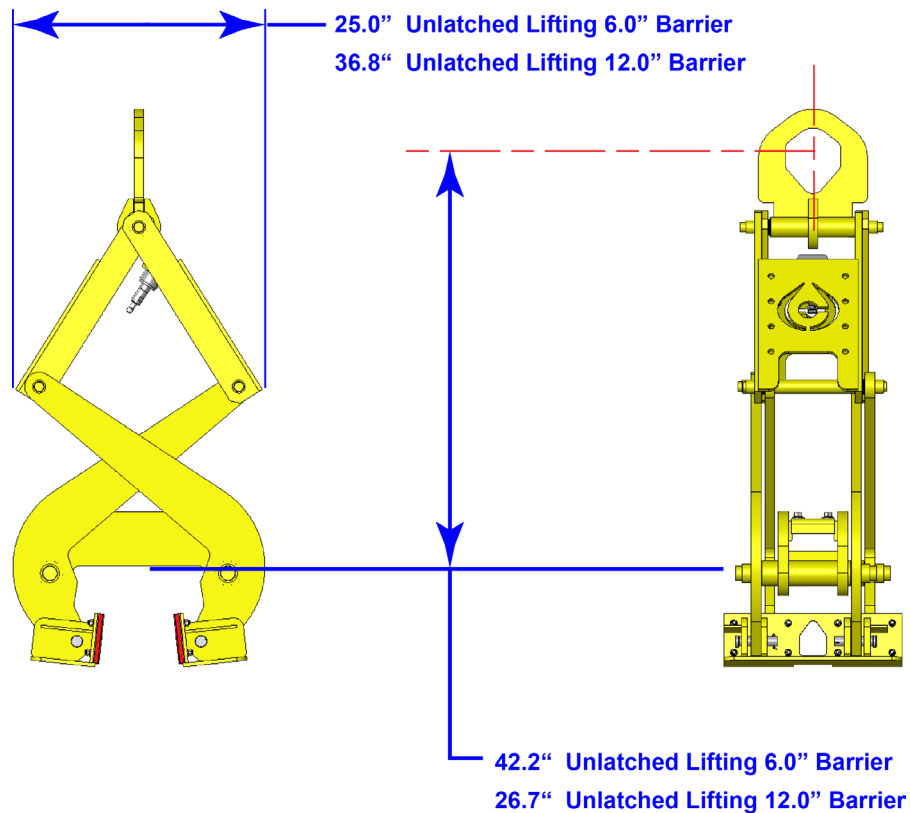
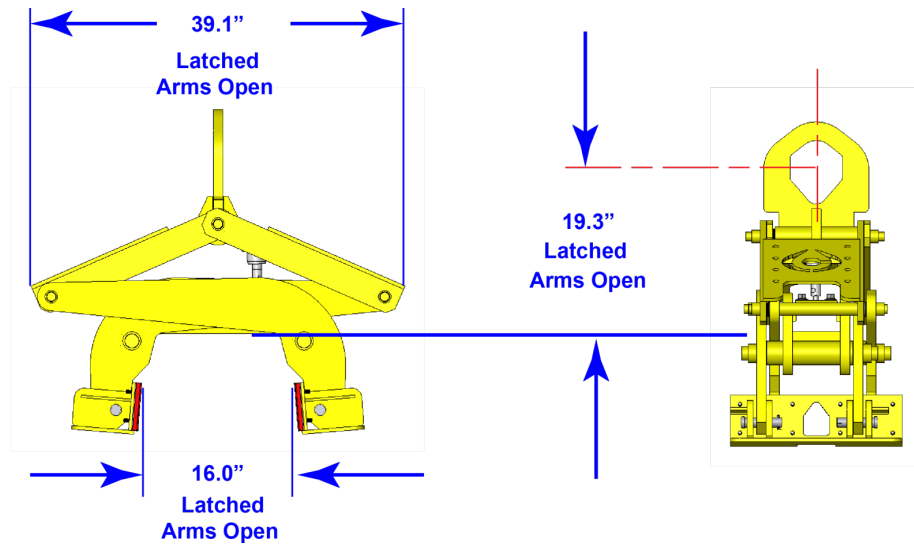
## Description

**RIG-MASTER®**

### Model BLG-4.1/4 and Model BLG-7.1/4

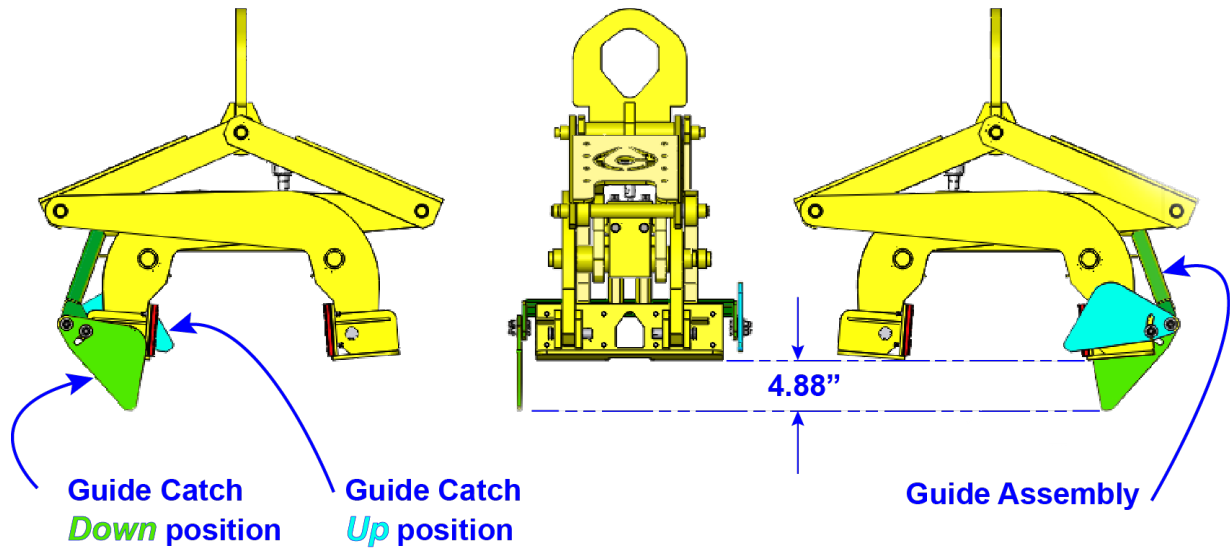


**Model BLG-4.1/4 and Model BLG-7.1/4**  
Without Handles and Guide

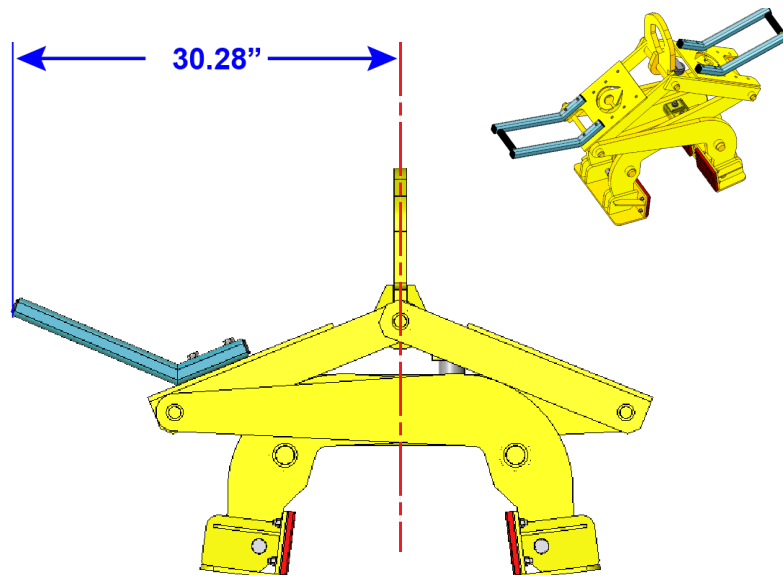


Model BLG-4.1/4 and Model BLG-7.1/4

With Guide Assembly  
Arms Latched Open



With Handle  
Arms Latched Open



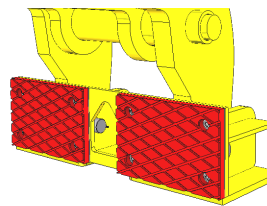
**⚠ WARNING**

Do not use the handle or guide assembly for hoisting or transporting a loaded or unloaded lifter.

Replaceable polyurethane, grip pads are standard on each barrier lifter. Each shoe assembly has two polyurethane grip pads, providing friction that prevents barrier slippage when the pads and barrier are clean and dry. Dog point pads, four required on each shoe assembly, are also available.



PN 70-0897



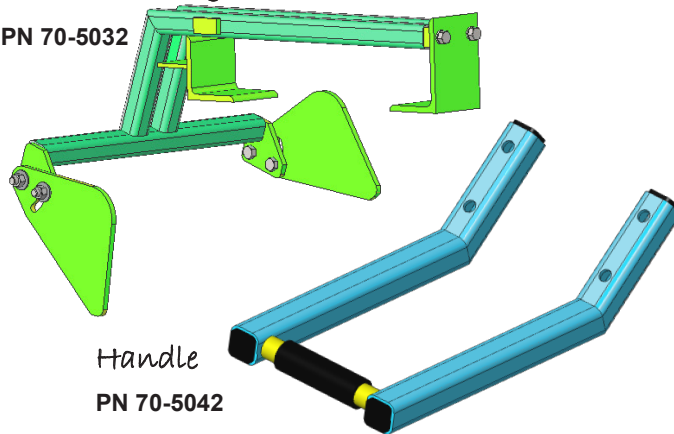
Dog Point Grip Pad (8)

PN 70-1028-1

The optional guide assembly, is removable and replaceable. Use the guide to position the tong correctly on the barrier without assistance from an additional operator. When the grab is placed on the ground, the guide plates pivot freely, so the grab rests on both shoes.

*Guide Assembly*

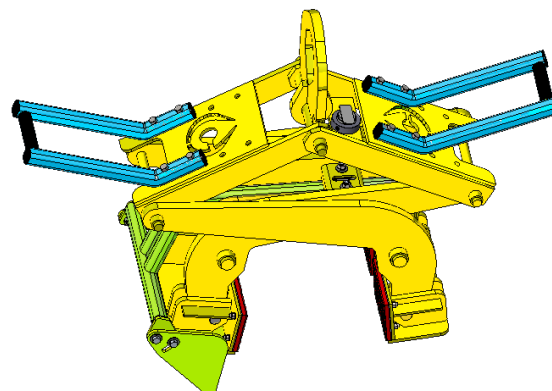
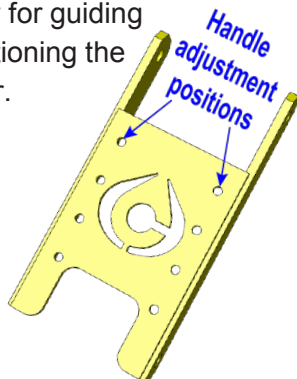
PN 70-5032



Handle

PN 70-5042

The handle is removable, adjustable, and replaceable. The handle is only for guiding and correctly positioning the grab on the barrier.



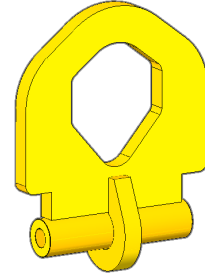
*Guide Assembly and Handle usage is optional.*

**⚠ WARNING****Load loss**

Do not hoist and transport a loaded grab with a lift truck fork.

Use a lift truck fork only to move an *unloaded* grab.

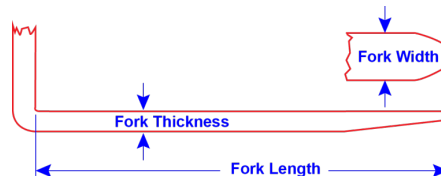
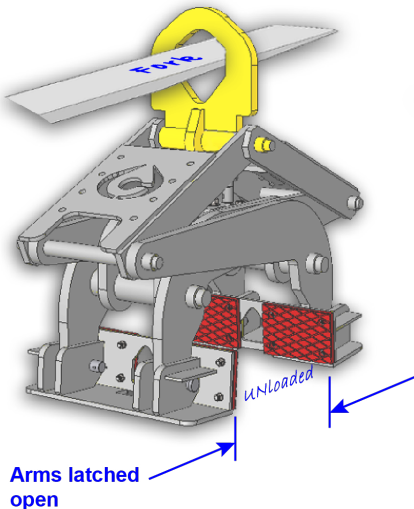
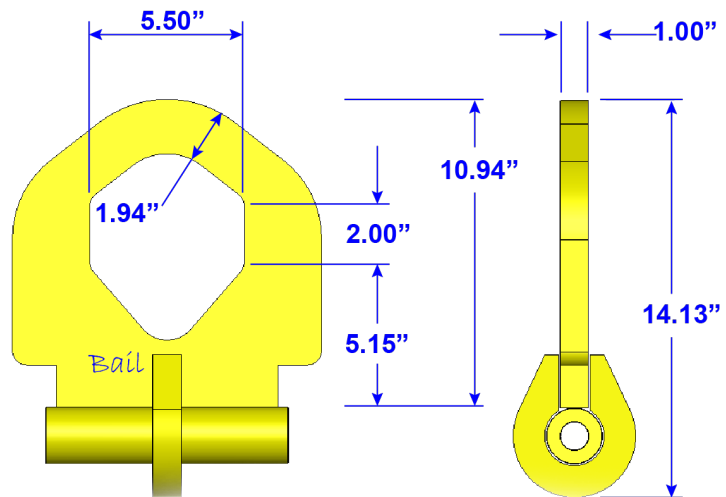
Ensure the arms are latched open before lifting and transporting an unloaded grab.



Inspect your bail regularly for any damage:

- bail wear in hoisting hook or fork engagement area
- structural bends or cracks
- Broken, cracked welds

If the bail has any damage, remove the lifter from service, tagging the lifter with an "Out of Service" tag. Next, contact The Caldwell Group, requesting replace or repair service. Return the grab to service only after replace or repair and a qualified person has inspected and approved the grab is ready for operation.



The grab's bail shape accommodates a lift truck fork: **Fork width, max. 5.00" x Fork thickness, max. 1.75"**

Before moving the grab with a lift truck fork, confirm the

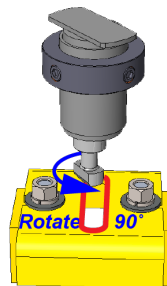
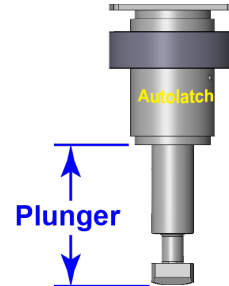
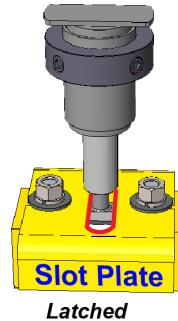
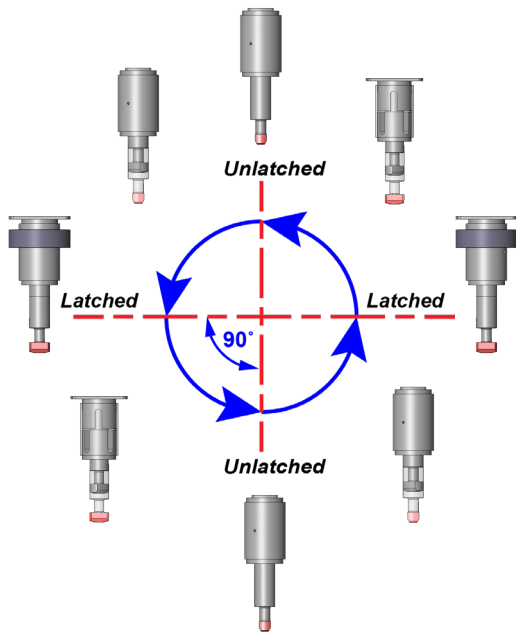
- fork width and fork thickness is correct for the bail opening
- fork's rated capacity is equal to or greater than the empty lifter's weight.
- arms are latched open

## Model BLG-4.1/4 and Model BLG-7.1/4

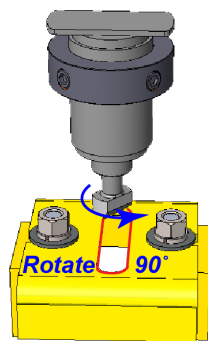
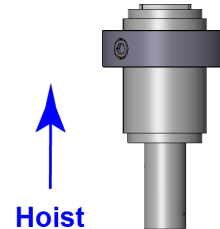
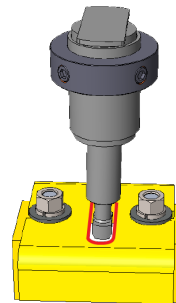
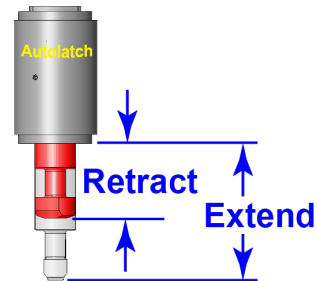
The position of stainless steel auto latch determines whether the grab arms are latched open or unlatched closed. The auto latch rotates counter-clockwise, one quarter turn, 90 degrees, from latched to unlatched, unlatched to latched.

Each time the lifter is lowered with slack in the hoist line, the auto latch plunger retracts into the auto latch housing. Lifting the grab upwards, using a vertical lift with a taut hoist line, completes the rotation and extends the plunger.

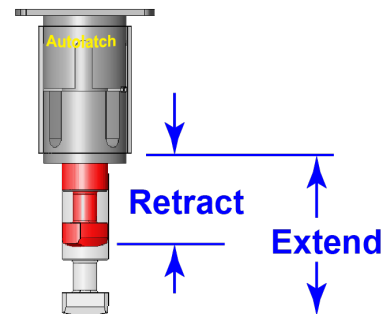
Depending on the starting position, the grab's arms are either latched open or unlatched closed.



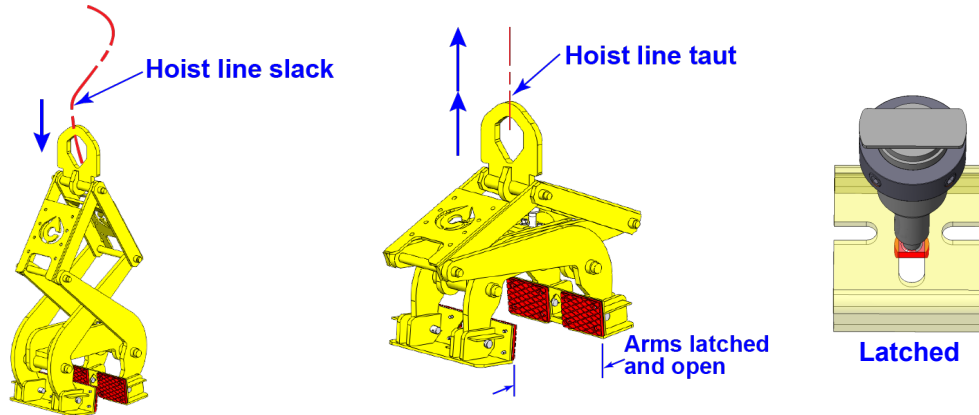
Rotating, quarter turn



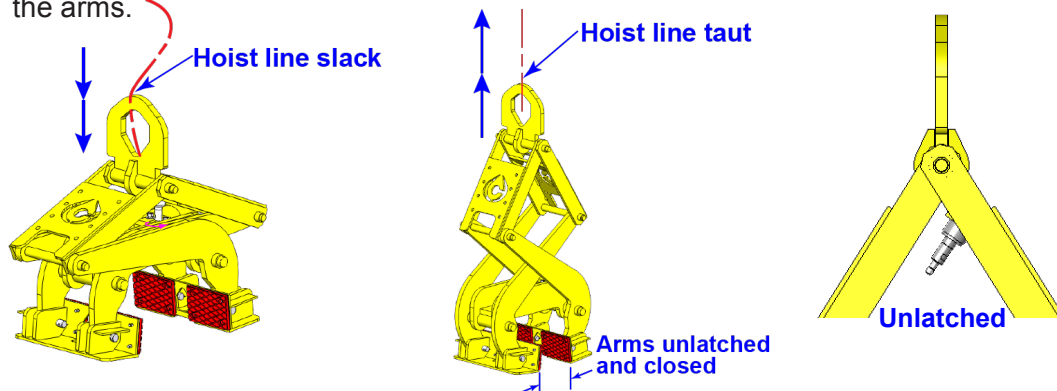
Rotating, quarter turn



**Latch** the arms open by starting with the grab arms *unlatched and closed*. With slack in the hoist line, lower the grab arms, activating plunger retraction. Once the plunger has retracted, lift the grab up, keeping the hoist line taut. The plunger completes the 90 degree rotation, extends into the slot plate, latching the arms open.

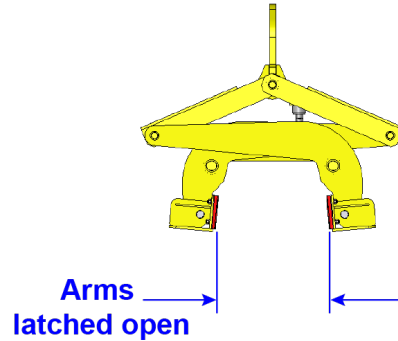


**Unlatch** the arms closed by starting with the grab arms *latched and open*. With slack in the hoist line, lower the grab arms, activating plunger retraction. Once the plunger has retracted, lift the grab up, keeping the hoist line taut. The plunger completes the 90 degree rotation and extends. As the grab is hoisting upward, the plunger exits the slot plate, unlatching and closing the arms.

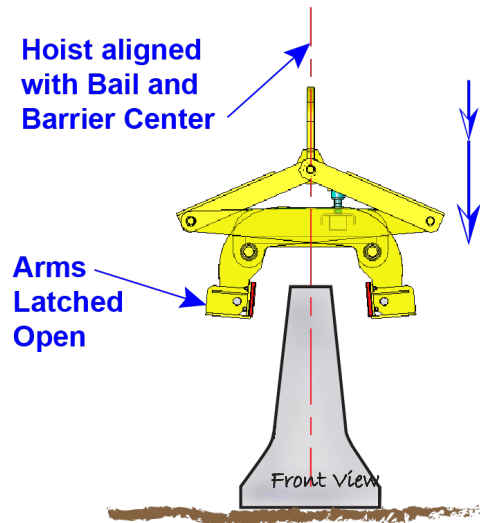


Before lifting and transporting a unloaded grab, activate the auto latch, ensuring the grab's arms are latched open. Perform a test lift of several inches, confirming the arms are latched open.

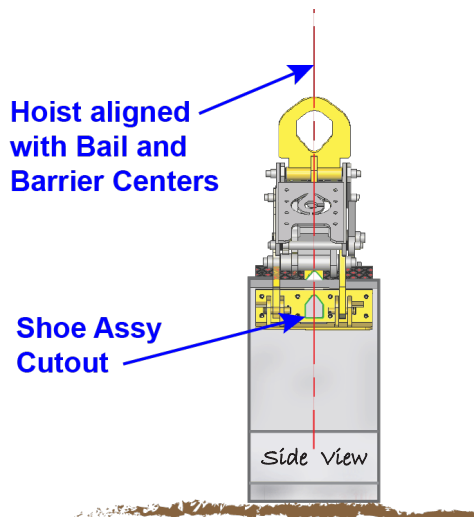
If the arms are unlatched, set the grab down, adjusting the auto latch rotation until the arms are latched open.



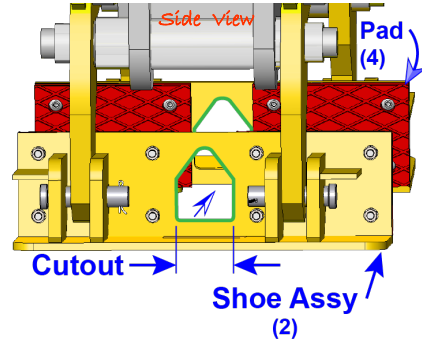
Once the arms are latched open, position the grab above the barrier, aligning the hoist's center with the barrier's center.



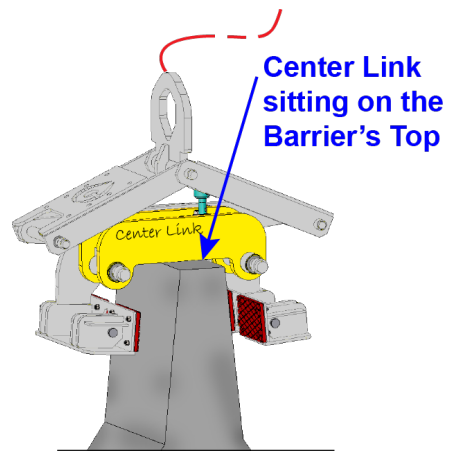
The hoist must, also, align with the bail and barrier centers from the side view.



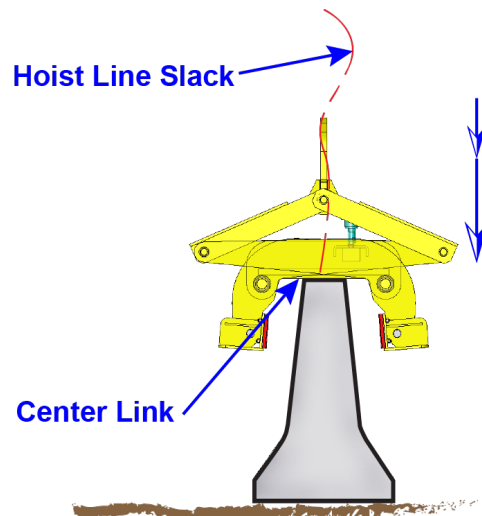
Use the shoe assembly cutout to see the grab's alignment with the barrier's center. Make sure the grab's bail is aligned with the barrier's center.



Lower the grab until the center link is sitting on top of the barrier.

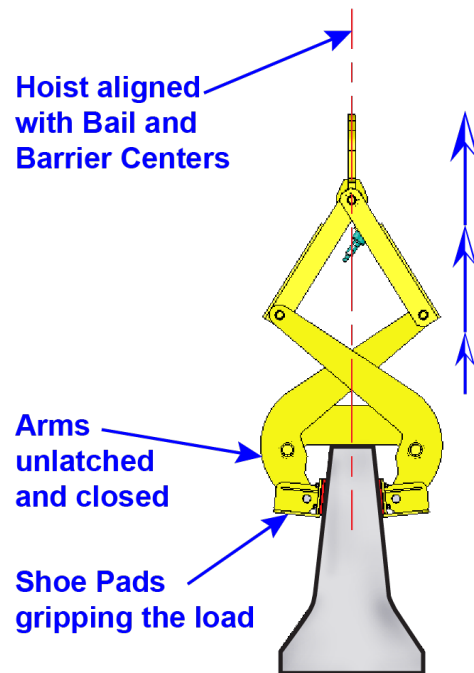


Next, with slack in the hoist line, continue lowering the grab's bail, activating auto latch rotation. The auto latch rotates from latched to *unlatched*.

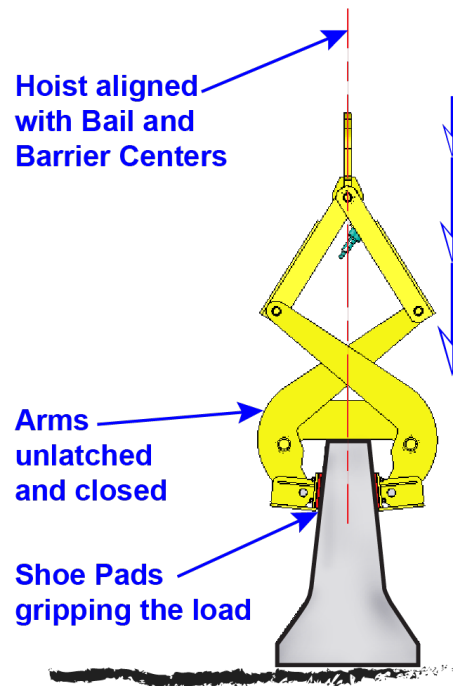


After the auto latch has rotated, unlatching the arms closed, slowly, use a vertical lift. The arms continue to close and the shoe assembly pads grip the barrier. Perform a test lift of several inches, confirming the grab's pads are firmly gripping the barrier.

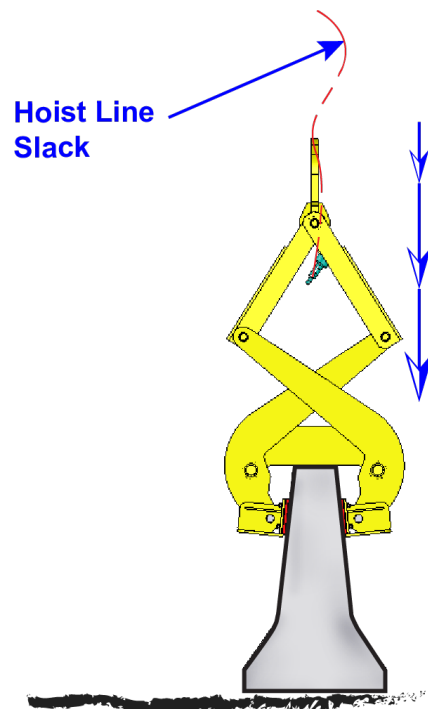
Upon confirming the grab is properly gripping the barrier and properly aligned with the barrier's center, first, assure the hoisting and transporting area is clear of people and any objects of obstruction. Then, continue the hoisting and transporting cycle.



Slowly, lower the loaded grab, placing the barrier at the final destination.



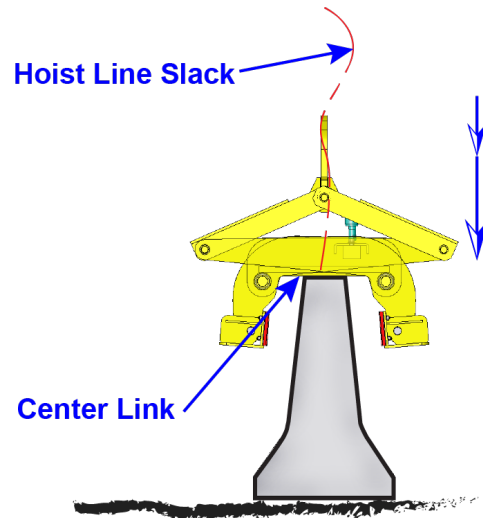
Next, with slack in the hoist line and the center link sitting on the barrier's top, continue lowering the grab's bail, activating the auto latch rotation. The auto latch rotates from *unlatched* to *latched*.



## Release the Load

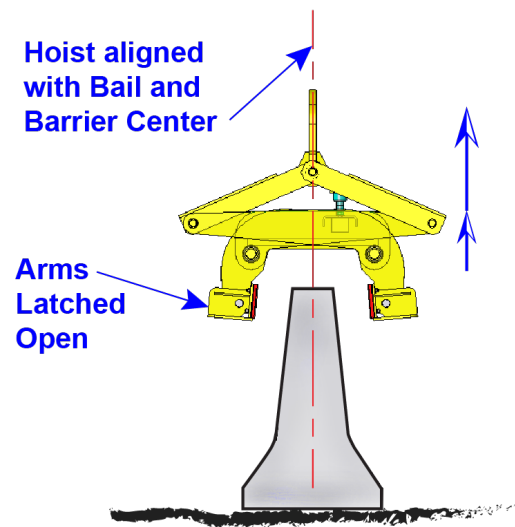
**RIG-MASTER®**

When the auto latch rotates, the arms latch open.



After the auto latch has rotated, latching the arms open, slowly, use a vertical lift, remove the grab from the barrier.

Ready for the next barrier.



The Extended Barrier Grab Kit consists of the following:

- (1) Lifting Beam
- (2) identical Model BLG Barrier Grabs

In an assembled barrier grab kit, the lifting beam and each BLG Barrier Grabs have individual Serial Numbers.



Record your Serial Numbers:

- 1. Barrier Grab: \_\_\_\_\_
- 2. Barrier Grab: \_\_\_\_\_
- 3. Lifting Beam: \_\_\_\_\_

## Description

**RIG-MASTER®**

ASME B30.20 BTH-1 for both beams,  
Model BLG-4.1/4-E Kit and  
Model BLG-7.1/4-E Kit, is  
Design Category B, Service Class 2.

**The Caldwell Group**  
PH 800-628-4263

Rated Cap  Lbs

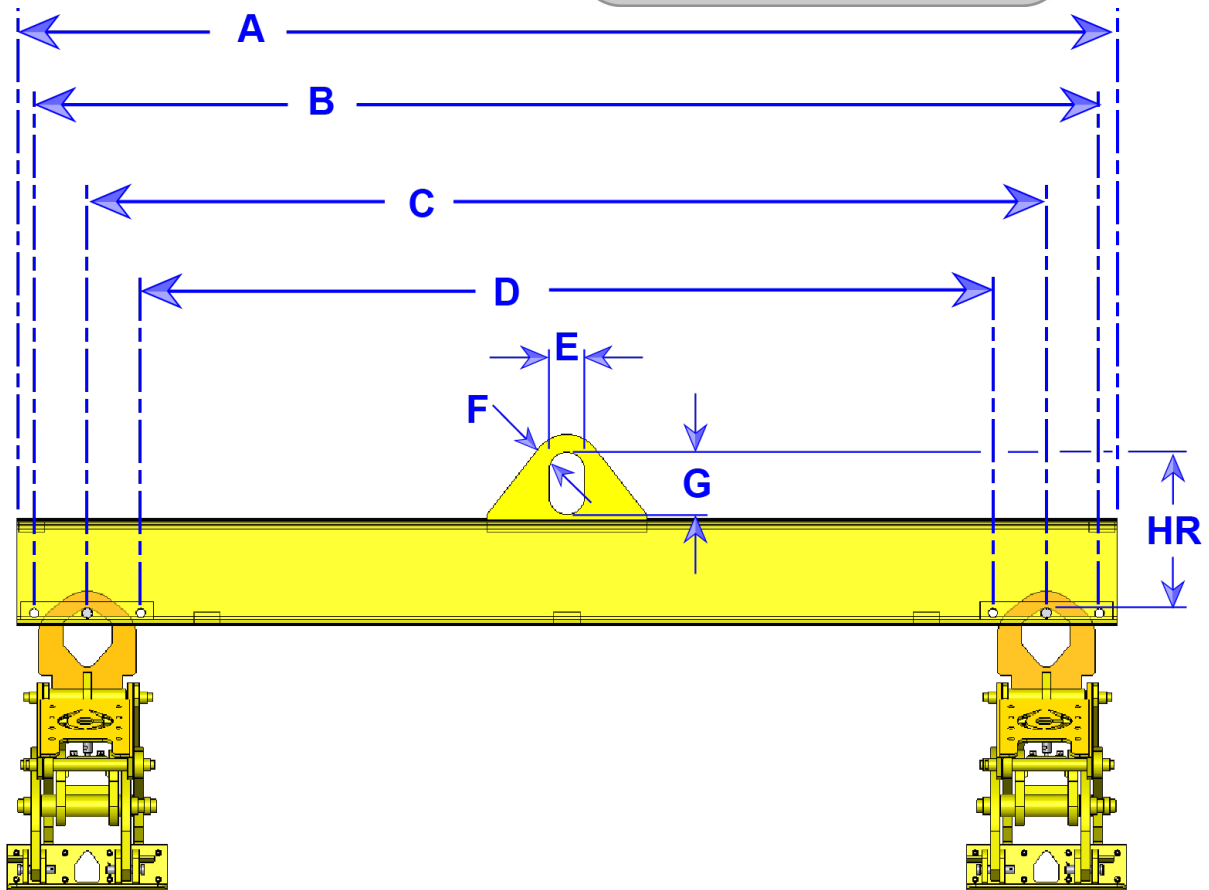
Model No

Serial No

Unit Wt  Lbs

ASME B30.20 BTH 1

Design Category B Service Class 2

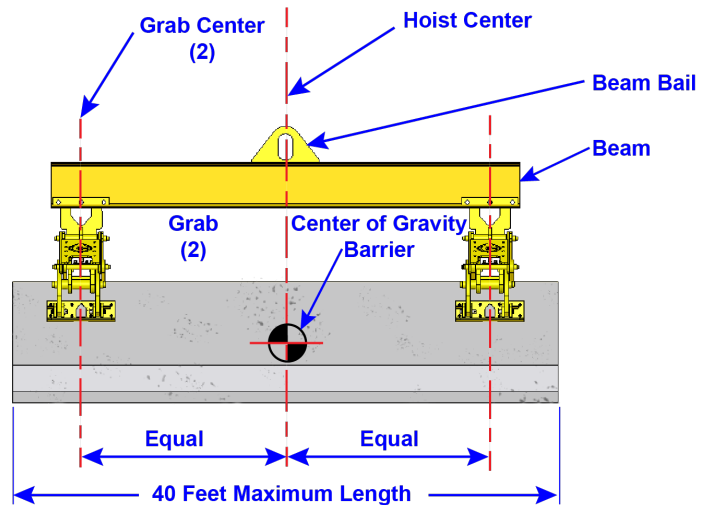


LIFTING BEAM											
Kit Model No.	Inch Dimensions								Rated Capacity (lbs)	Beam Weight (lbs)	Unit Weight (lbs)*
	A	B	C	D	E	F	G	HR			
BLG-4-1/4-E Kit	96.00	108.00	120.00	124.00	4.00	2.00	7.00	17.60	18,000	500	1,600
BLG-7-1/4-E Kit	168.00	180.00	192.00	198.00	5.00	2.50	9.00	25.30	30,000	1,570	2,770

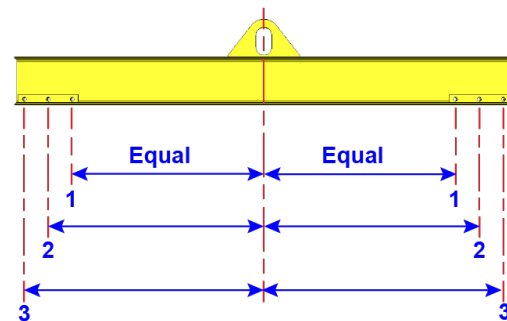
\* Assembled Unit Weight = Total weights: one Lifting Beam and two, identical Model BLG Barrier Grabs .

When using the extended barrier grab kit, use only symmetrical loading:

- align all three centers together: hoist center, beam's bail center, and the barrier's center of gravity.
- align each grab center, parallel and equal distance to the beam's bail center, including equal distance from load's center of gravity.

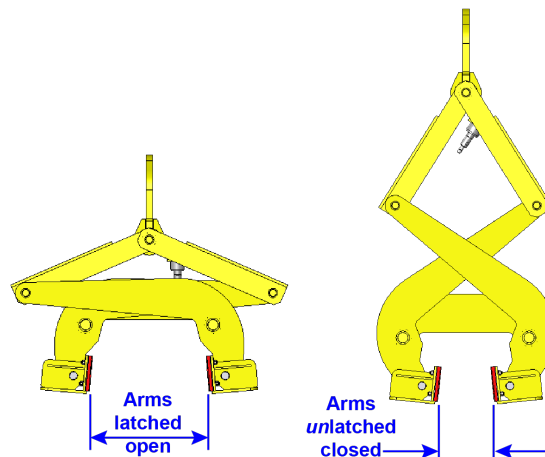


Next, decide where to position the grabs, position 1-1, position 2-2, or position 3-3. Grab position is dependent upon the barrier's size and center of gravity location.



Before attaching two identical grabs to the beam, ensure both grabs are either

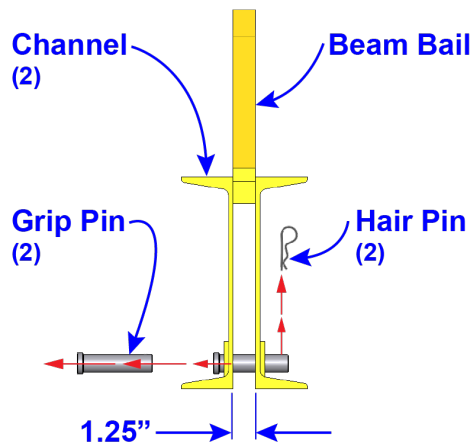
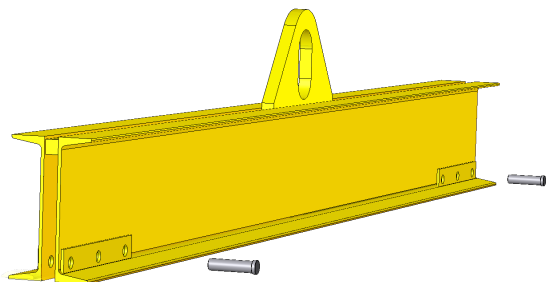
**Arms Latched Open or**  
**Arm Unlatched Closed.**



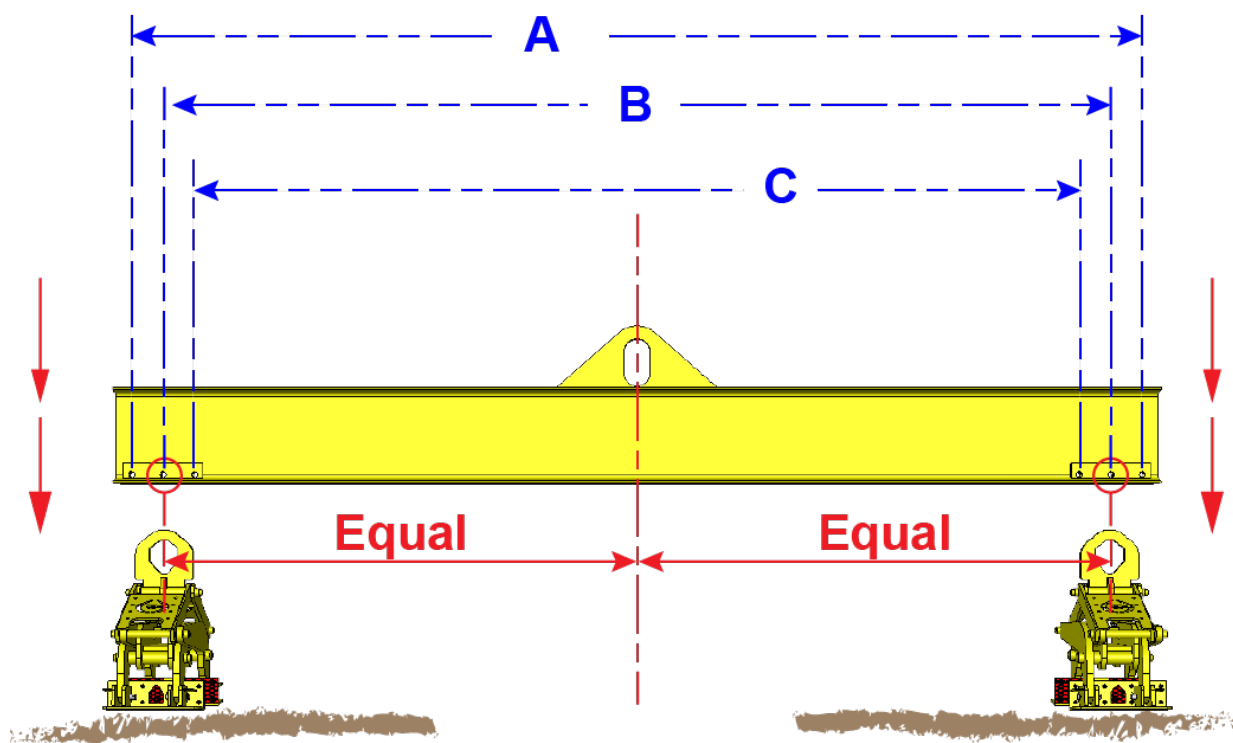
## Attaching the Beam to Grabs

**RIG-MASTER®**

Remove both hair pins and grip pins from the beam.



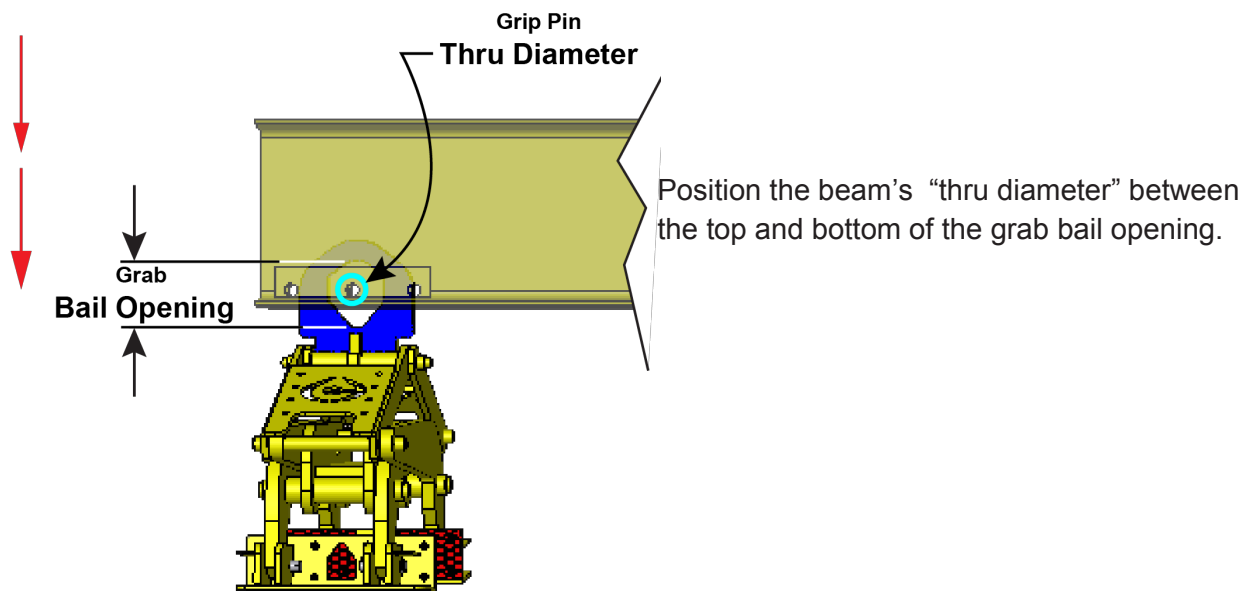
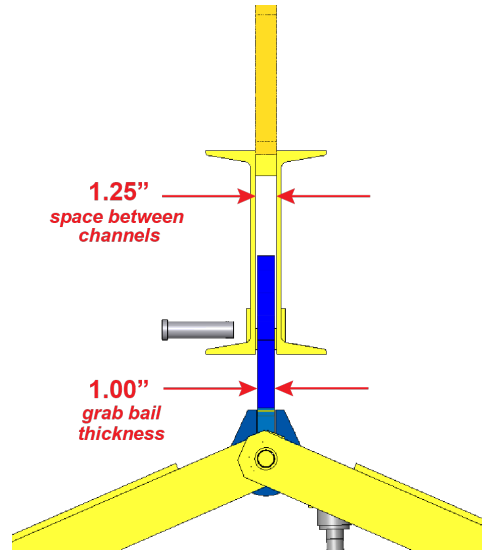
Next, with the grabs sitting on the ground, space the grabs, according to the selected thru diameter spacing, therefore, **A, B, or C**. Position the beam above the equally spaced grabs, centering the beam's bail center equally between the grabs. Slowly, lower the beam.



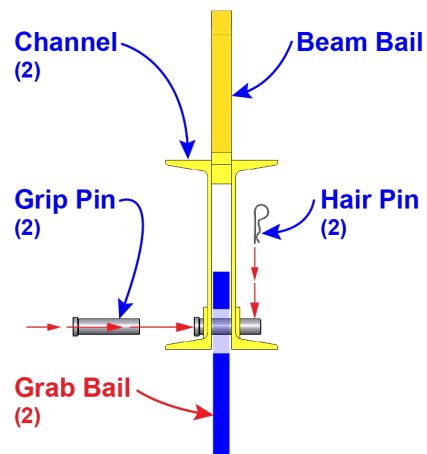
## Attaching the Beam to Grabs

**RIG-MASTER®**

Continue lowering the beam until both grab bails are between the beam's two channels, lowering enough for grab pin insertion.



Then for each grab, insert one grip pin through both beam channels and grab bail, securing the grip pin with a hair pin.



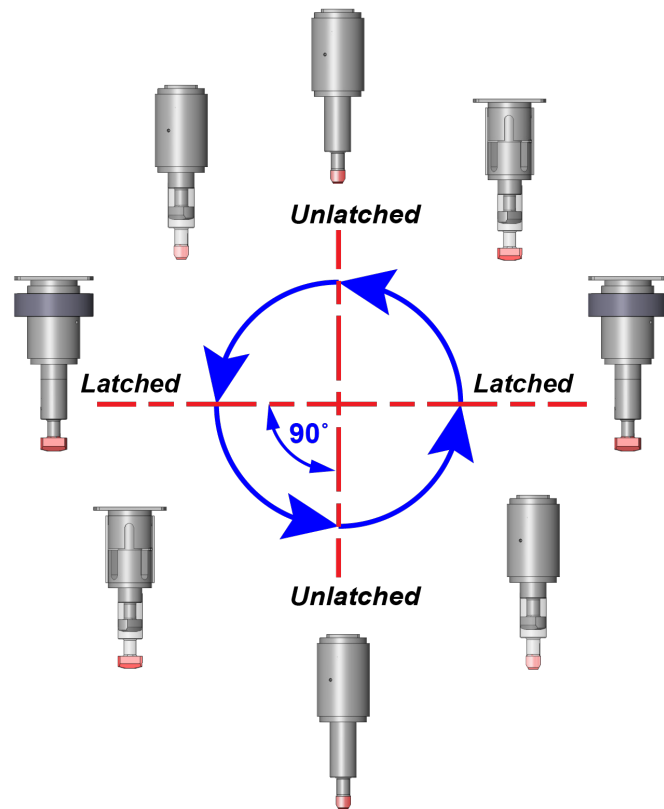
The auto latch operates the same as the single barrier grab. However, with the extended barrier grab, there is one lifting beam and two connected, identical grabs.

The position of the stainless steel auto latch determines whether the grab arms are latched open or unlatched closed. The auto latch rotates counter-clockwise, one quarter turn, 90 degrees, from latched to unlatched, unlatched to latched.

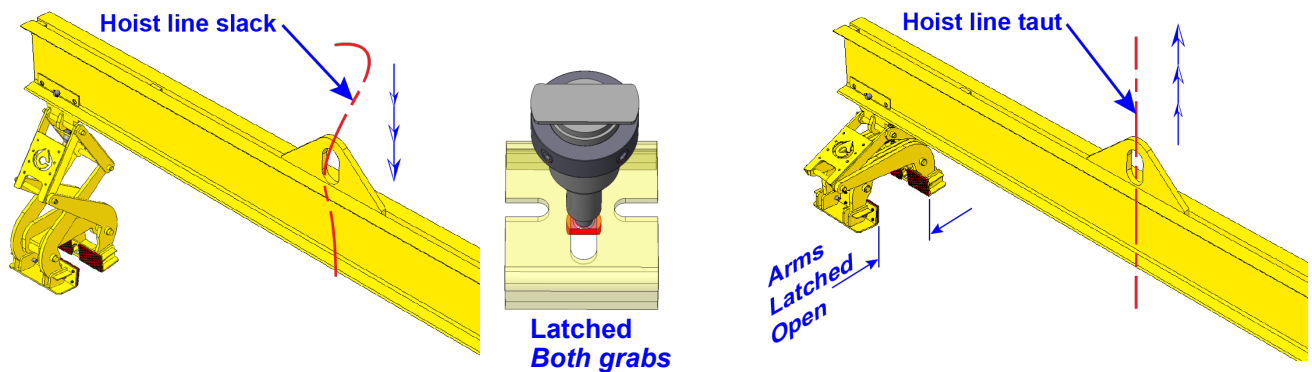
Each time the extended barrier grab is lowered with slack in the hoist line, the auto latch plunger retracts into the auto latch housing.

Hoisting the extended barrier grab upwards, using a vertical lift and hoist line taut, completes the rotation, extending the plunger to the next position.

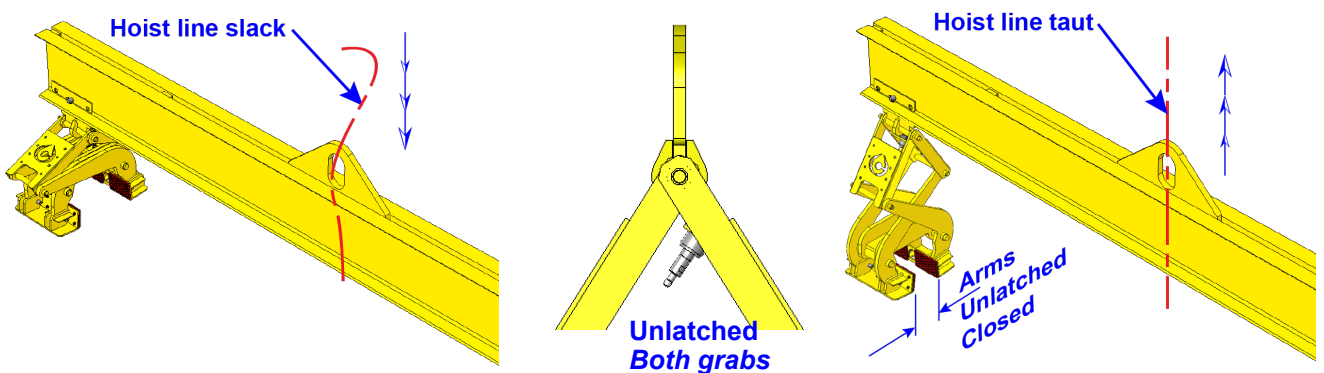
Depending on the starting position, the grab's arms are either latched open or unlatched closed.



Latch both grab arms open by starting with both grab arms *unlatched and closed*. With slack in the hoist line, lower the extended barrier grab, activating plunger retraction. Once both plungers have retracted, lift the extended barrier grab up, keeping the hoist line taut and vertical. The plunger completes the 90 degree rotation, extends into the slot plate, latching the arms open—both grabs simultaneously.

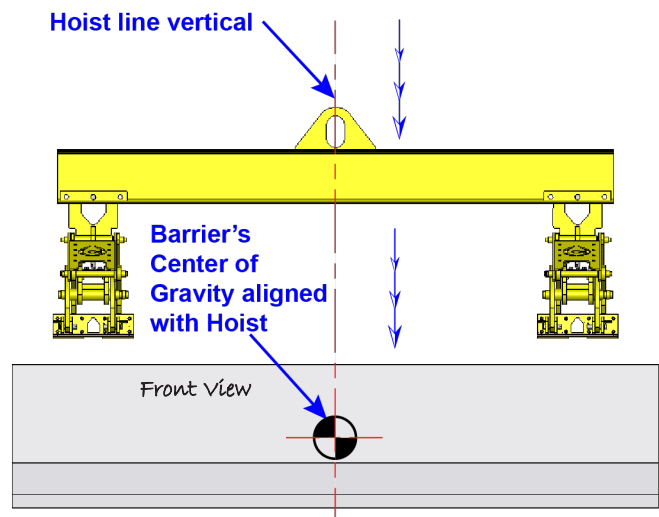
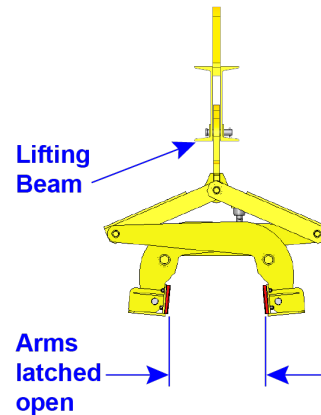


Unlatch the arms closed by starting with both grab arms *latched and open*. With slack in the hoist line, lower the beam, activating plunger retraction. Once the plunger has retracted, hoist the grab up, keeping the hoist line taut and vertical. The plunger completes the 90 degree rotation and extends. As the lifting beam is hoisting upward, the plunger exits the slot plate, unlatching the arms closed—both grabs simultaneously.

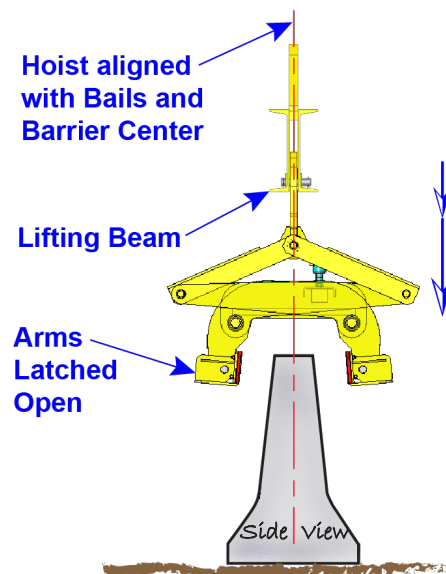


Before lifting and transporting a loaded, extended barrier grab, activate the auto latch, ensuring both grabs have arms that are latched open. Perform a test lift of several inches, confirming the arms are latched open. If the arms are unlatched, set the grab down, adjusting the auto latch rotation until the arms on both grabs are latched open.

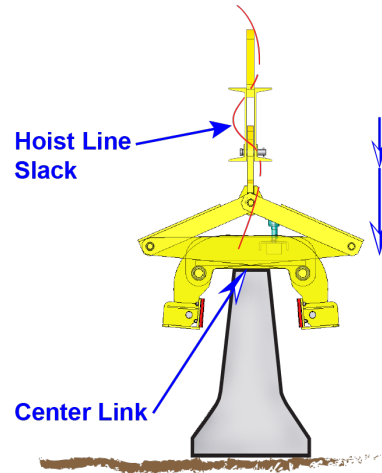
Once the arms are latched open, position the extended barrier grab above the barrier, aligning the hoist's center with the barrier's center of gravity.



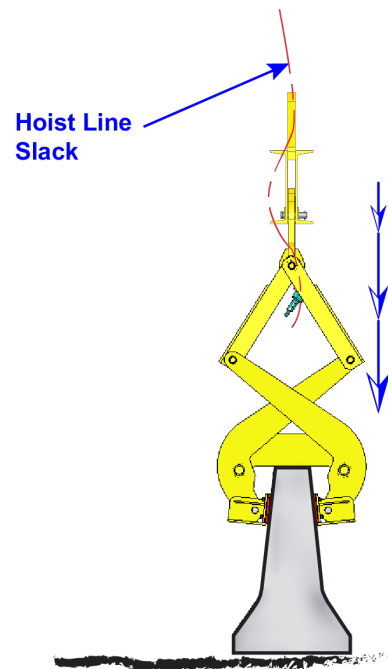
The hoist must, also, align with the bail and barrier centers from the side view.



Lower the lifting beam until each grab's center link is sitting on top of the barrier.



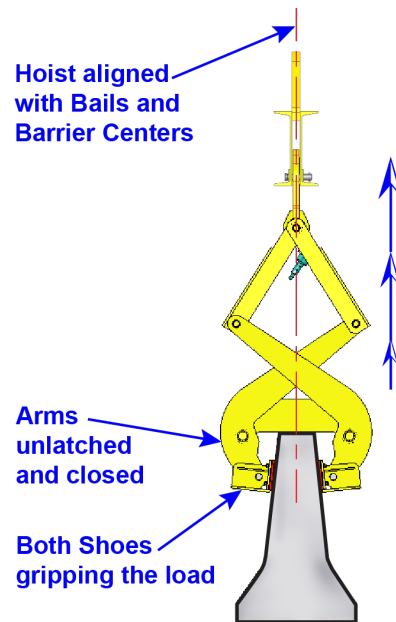
Next, with slack in the hoist line, continue lowering the lifting beam, activating auto latch rotation for both grabs. The auto latches rotate from latched to *unlatched*.



After both auto latches have rotated, unlatching the arms closed, slowly, use a vertical lift.

The arms continue to close and the shoe assembly pads grip the barrier. Perform a test lift of several inches, confirming the pads on each grab are firmly gripping the barrier.

Upon confirming the proper grip and proper alignment, assure the hoisting and transporting area is clear of people and any objects of obstruction. Then, continue the hoisting and transporting cycle.

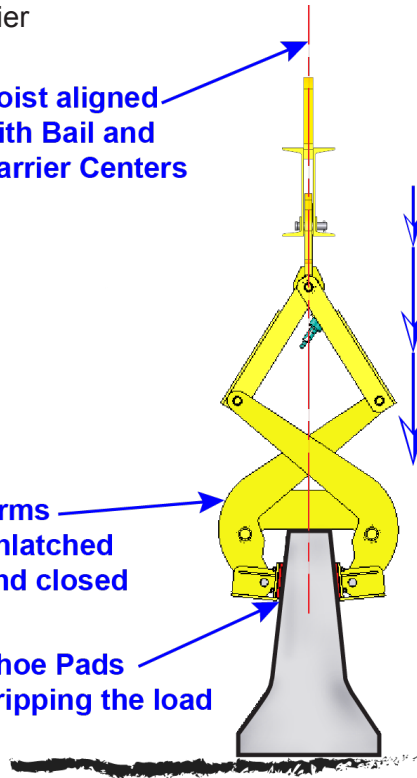


Slowly, lower the loaded, extended barrier grab, placing the barrier at the final destination.

Hoist aligned  
with Bail and  
Barrier Centers

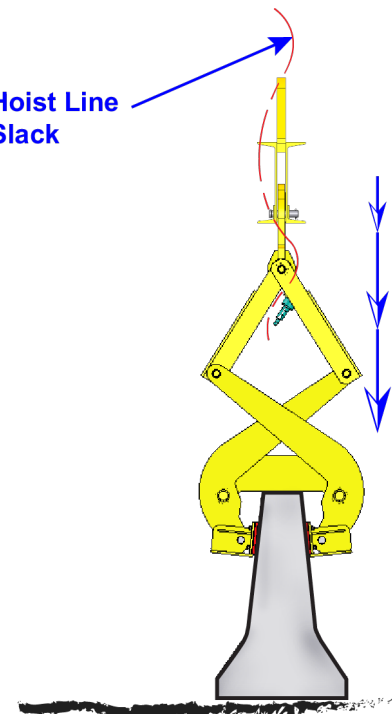
Arms  
unlatched  
and closed

Shoe Pads  
gripping the load

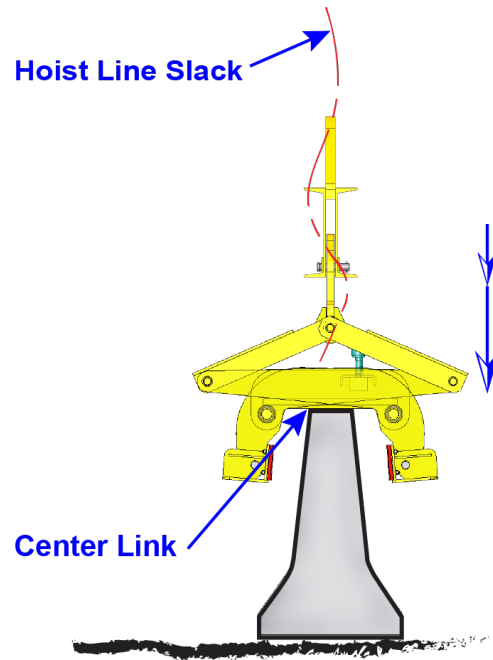


Next, with slack in the hoist line and both center links sitting on the barrier's top, continue lowering the extended barrier grab, activating the auto latch rotation. The auto latch rotates from *unlatched* to latched.

Hoist Line  
Slack

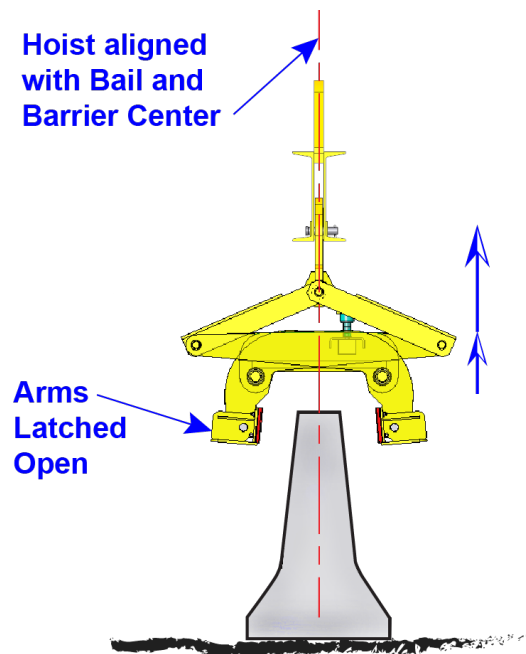


When the auto latch rotates, the arms latch and open.

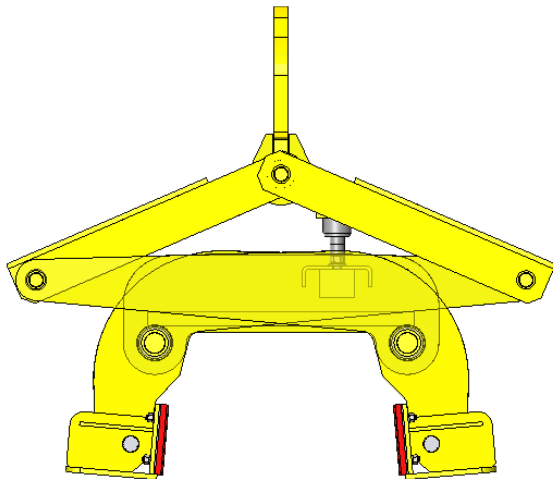


After the auto latch has rotated, latching the arms open, slowly, using a vertical lift, remove the grab from the barrier.

Ready for the next barrier.



## Model BLG-4.1/4 and Model BLG-7.1/4



**ASME B30.20 BTH 1**

**Design Category B**

**Service Class 3**

*If the identification tag or product safety labels are damaged or missing, contact The Caldwell Group for complimentary replacements.*



**The Caldwell Group**  
PH 800-628-4263

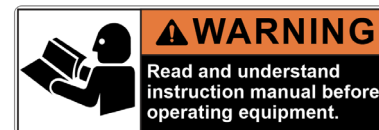
Rated Cap  Lbs

Model No

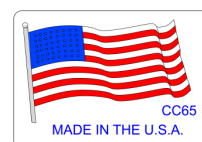
Serial No

Unit Wt  Lbs

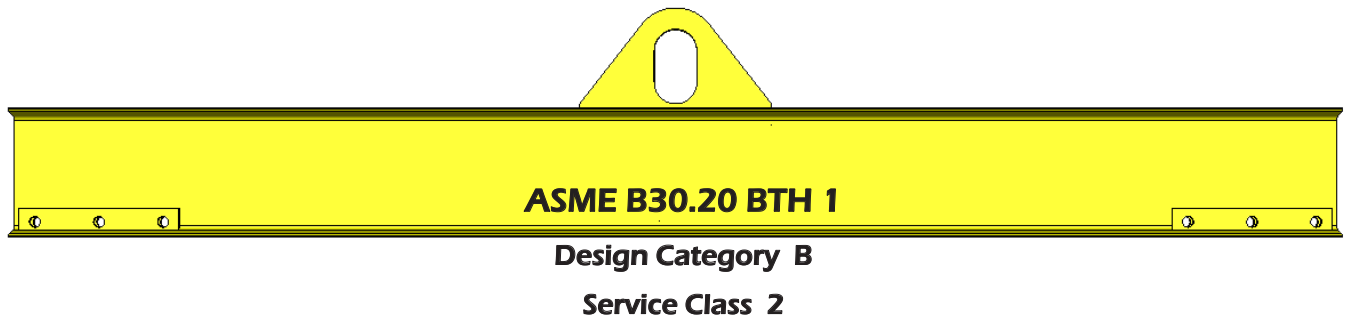
ASME B30.20 BTH 1  
Design Category B Service Class    



## XX TON CAP.



Model BLG-4.1/4-E Kit and  
Model BLG-7.1/4-E Kit



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Rated Cap  Lbs

Model No

Serial No

Unit Wt  Lbs

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Design Category B Service Class    



**XX TON CAP.**



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4080 Logistics Parkway P.O. Box 6005 800.628.4263 815.229.5686 fax  
Rockford, IL 61109 Rockford, IL 61125 815.229.5667 caldwellinc.com

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