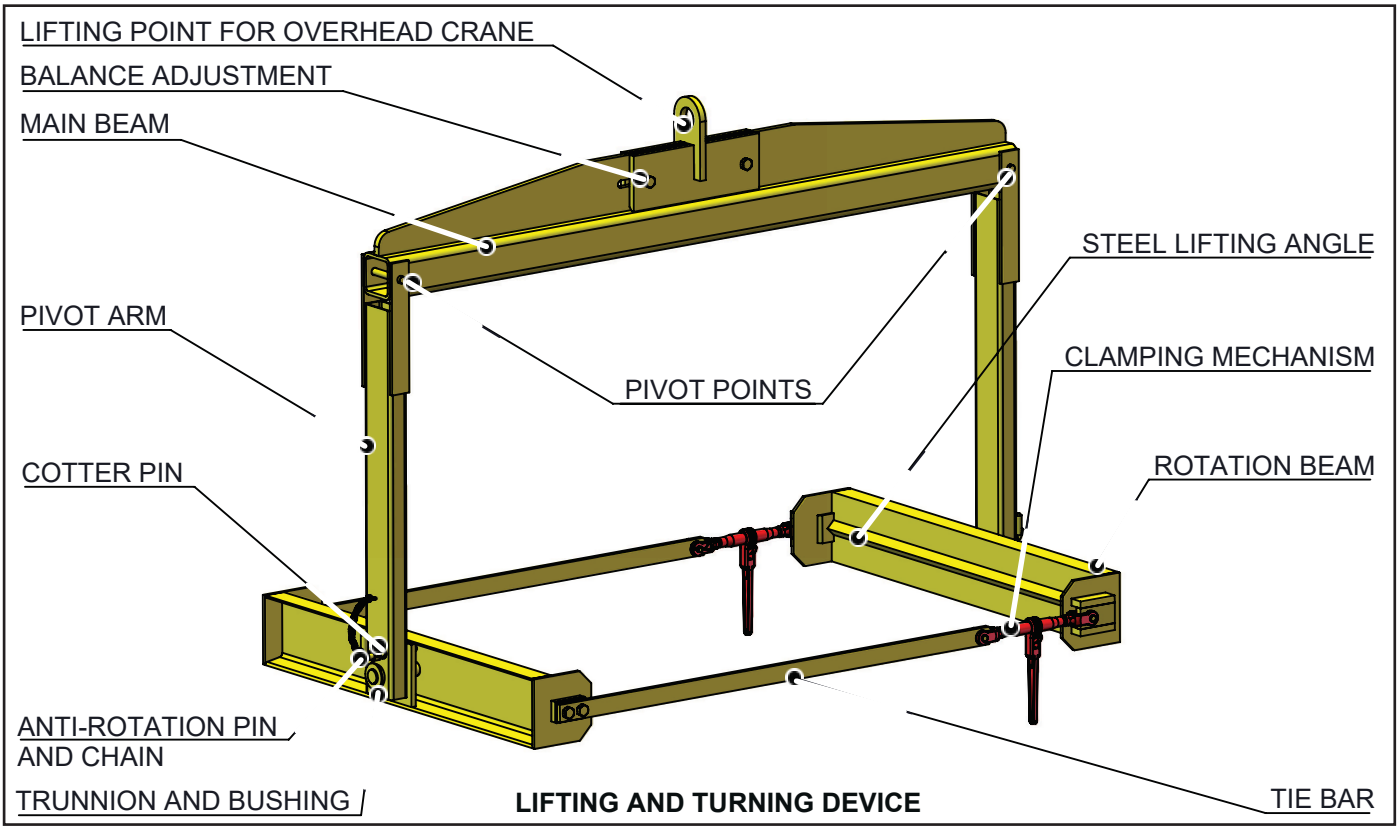
LIFTING AND TURNING EQUIPMENT MAINTENANCE AND OPERATING INSTRUCTIONS

WARNING: IT IS THE PRECASTER'S RESPONSIBILITY TO MAKE SURESAFEWORK PRACTICES AND APPLICABLE SAFETY REGULATIONS ARE FOLLOWED. MISUSE AND MISHANDLING OF MOLDS, MOLD EQUIPMENT OR CASTINGS CAN RESULT IN SERIOUS INJURY OR DEATH. ALL APPLICABLE OSHA AND NPCA SAFETY STANDARDS MUST BE FOLLOWED WHEN HANDLING MOLDS, MOLD EQUIPMENT OR CASTINGS. THOROUGHLY READ THESE INSTRUCTIONS BEFORE USE. NORWECONY WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF THE USE OF ANY LIFTING OR TURNING EQUIPMENT. IT IS COMPLETELY THE RESPONSIBILITY OF THE USER TO INSURE ALL EQUIPMENT IS USED PROPERLY AND SAFELY.

LIFTING AND TURNING DEVICE

The lifting and turning device is designed to be clamped directly to a concrete casting. This device is then used to rotate an inverted casting to an upright position. On top of the main beam of this device is a lifting point designed to be used with an overhead crane. If required, this lifting point can be adjusted side-to-side before use in order to level the casting. **IMPORTANT:** The casting must be level to insure safety and proper operation. Anti-rotation pins are located on the bottom ends of the pivot arms. While in place, these pins are designed to keep the device and casting from rotating. The inside of both rotation beams include steel lifting angles that protrude inward toward the casting. These angles are designed to lock into corresponding grooves molded into the concrete during the casting process. On each tie bar is a clamping mechanism. This mechanism is designed to clamp the device securely to the concrete casting. See image below.



LIFTING AND TURNING DEVICE

WARNING: DO NOT USE ANY LIFTING OR TURNING EQUIPMENT ON A MOLD OR CASTING FOR WHICH IT WAS NOT DESIGNED. MISUSE OF THIS EQUIPMENT CAN RESULT IN SERIOUS INJURY OR DEATH.

LIFTING AND TURNING EQUIPMENT MAINTENANCE AND OPERATING INSTRUCTIONS

Lifting and Turning Device Maintenance

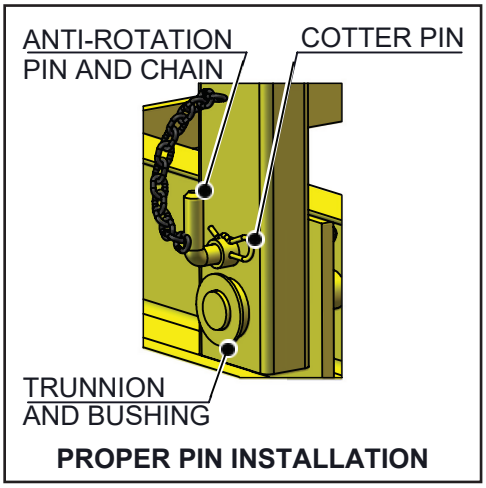
WARNING: ALL LIFTING AND TURNING EQUIPMENT MUST BE STORED INDOORS TO PREVENT RUST ACCUMULATION, WEAR OR DAMAGE. ALL LIFTING AND TURNING EQUIPMENT MUST BE OPERATED AND TRANSPORTED WITH A PROPERLY RATED OVERHEAD CRANE. DO NOT OPERATE OR TRANSPORT ANY LIFTING OR TURNING EQUIPMENT WITH A FORKLIFT.
Visually inspect all moving components and areas that come in contact with the concrete casting or a lifting mechanism, such as an overhead crane or hook, for wear or damage. These components include, but are not limited to, the following:

- Lifting point for connection to overhead crane Steel lifting angles
- Pivot arms and pins on main beam
- Trunnions and trunnion bushings
- Clamping mechanism
- Anti-rotation pins with chains and cotter pins

These components should be checked before each use. If any of these components show signs of wear or damage, immediately remove the device from service and consult a licensed professional engineer.

Lifting and Turning Device Operation

Before using any lifting or turning equipment, visually inspect all equipment for signs of wear or damage. Insure that the anti-rotation pins are properly installed in the pivot arms, completely through the rotation beams and secured with cotter pins, before use. These anti-rotation pins and cotter pins should be secured in place at all times unless intentionally rotating the concrete casting. Using a properly rated overhead crane, lift the device and lower it around the casting until the lifting angles on the device are properly engaged with the grooves in the casting. Tightly attach the device to the casting using the clamps on each of the tie bars. After the device is securely clamped to the casting, slowly and carefully lift the concrete casting up and off the mold core.



PROPER PIN INSTALLATION

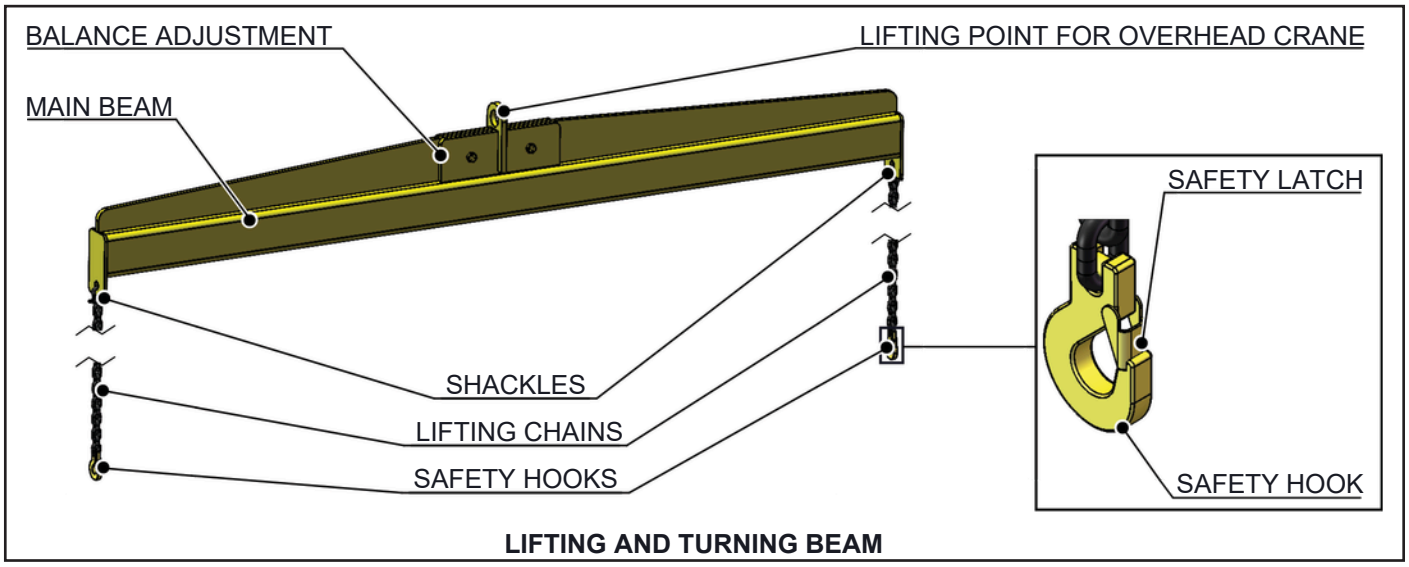
WARNING: DO NOT PLACE ANY PART OF YOUR BODY BENEATH TURNING DEVICE OR CASTING WHILE ELEVATED.
Move the casting into an open area. Once the device and casting are away from the mold and out in the open, set them on the ground and remove the two cotter pins and two anti-rotation pins. The device and casting can then be slowly lifted vertically, just high enough off the ground to rotate the casting. **Slowly and in a controlled fashion, rotate the casting 180 degrees.**

After rotating the casting 180 degrees, set the casting back onto the ground. Reinstall the anti-rotation pins and cotter pins on either side of the device. Release the two clamping mechanisms on the tie bars. Using the overhead crane, lift the device off the concrete casting and set aside for future use. Make sure the anti-rotation pins and cotter pins are properly reinstalled.

LIFTING AND TURNING BEAM

The lifting and turning beam is designed to attach to trunnions on the outer jacket of a mold. This device is then used to rotate an inverted casting and the outer jacket to an upright position. On top of the beam is a lifting point designed to be used with an overhead crane. If required, this lifting point can be adjusted side-to-side before use in order to level the casting. **IMPORTANT:** The casting must be level to insure safety and proper operation. On either end of the turning beam are lifting chains with safety hooks. These hooks are designed to be attached to the trunnions on the outer jacket of the mold. See image below.

LIFTING AND TURNING EQUIPMENT MAINTENANCE AND OPERATING INSTRUCTIONS



LIFTING AND TURNING BEAM

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Lifting and Turning Beam Maintenance

WARNING: ALL LIFTING AND TURNING EQUIPMENT MUST BE STORED INDOORS TO PREVENT RUST ACCUMULATION, WEAR OR DAMAGE. ALL LIFTING AND TURNING EQUIPMENT MUST BE OPERATED AND TRANSPORTED WITH A PROPERLY RATED OVERHEAD CRANE. DO NOT OPERATE OR TRANSPORT ANY LIFTING OR TURNING EQUIPMENT WITH A FORKLIFT.

Visually inspect all moving components and areas that come in contact with the concrete casting or lifting device, such as an overhead crane or hook, for wear or damage. These components include, but are not limited to, the following:

- Lifting point for connection to overhead crane
- Connection points on main beam for shackles and lifting chains
- Shackles and lifting chains
- Safety hooks and safety latches

These components should be checked before each use. If any of these components show signs of wear or damage, immediately remove the device from service and consult a licensed professional engineer.

Lifting and Turning Beam Operation

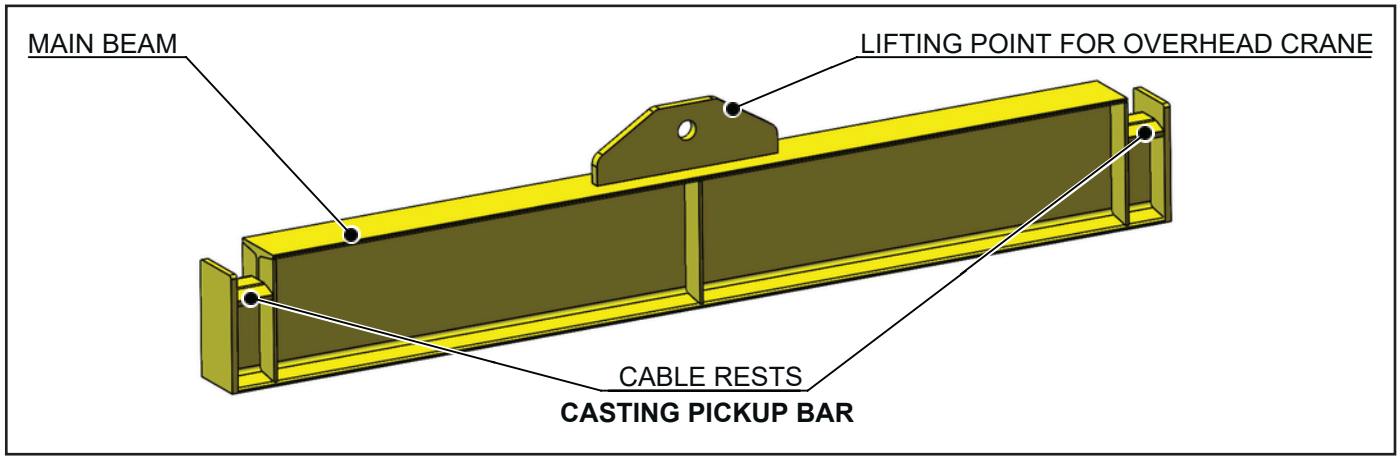
Before using any lifting or turning equipment, visually inspect all equipment for signs of wear or damage. Fully inspect both lifting chains and the locations on the main beam to which they are connected. Make sure the hooks and safety latches are not worn and operate correctly. Using a properly rated overhead crane, lift the beam and lower it over the mold outer jacket and casting. Attach eachof the safety hooks to the trunnions on either end of the outer jacket and makesure the safety latches snap intoplace around the trunnions. After the hooks are properly attached, **slowly and in a controlled fashion, lift the outer jacket and’concrete casting vertically the minimum height required to safely remove them from the mold core.** Hydraulicsairand/or jackboltsmaybe usedtoassist.

WARNING: DO NOT PLACE ANY PART OF YOUR BODY BENEATH LIFTING AND TURNING BEAM WHILE ELEVATED.

Slowly lift the outer jacket and casting away from the mold core and move them into an open area. Lower the outer jacket and casting as close to the ground as possible while still allowing for rotation. **Slowly and in a controlled fashion, rotate the outer jacket and casting 180 degrees**. After rotating the casting 180 degrees, place the outer jacket and casting onto the ground. Safely strip casting from outer jacket. Using the overhead crane, return the outer jacket to the remainder of the mold and reassemble. Detach the latches and safety hooks from the outer jacket and use the overhead crane to set aside the lifting and turning beam for future use.

CASTING PICKUP BAR

The casting pickup bar is designed to be used with a properly rated wire cable to lift and move concrete castings. NorwecoNY does not provide or make recommendations for the wire cable that is to be used. On top of the bar is a lifting point designed to be used with an overhead crane. On either end of the main beam are cable rests. These rests are designed to hold the wire cable. See image below.



CASTING PICKUP BAR

WARNING: DO NOT USE ANY LIFTING OR TURNING EQUIPMENT ON A MOLD OR CASTING FOR WHICH IT WAS NOT DESIGNED. MISUSE OF THIS EQUIPMENT CAN RESULT IN SERIOUS INJURY OR DEATH. ALL LIFTING AND TURNING EQUIPMENT MUST BE STORED INDOORS TO PREVENT RUST ACCUMULATION, WEAR OR DAMAGE. ALL LIFTING AND TURNING EQUIPMENT MUST BE OPERATED AND TRANSPORTED WITH A PROPERLY RATED OVERHEAD CRANE. DO NOT OPERATE OR TRANSPORT ANY LIFTING OR TURNING EQUIPMENT WITH A FORKLIFT.

Casting Pickup Bar Maintenance

On the casting pickup bar, visually inspect all components that come in contact with the wire cable or lifting device, such as an overhead crane or hook, for wear or damage. These components include, but are not limited to, the following:

- Lifting point for connection to overhead crane
- Cable rests
- Wire cable (not provided)

These components should be checked before each use. If any of these components show signs of wear or damage, immediately remove the device from service and consult a licensed professional engineer.

Casting Pickup Bar Operation

Before using any lifting equipment, visually inspect all equipment for signs of wear or damage. Using a properly rated overhead crane, lift the bar and lower it over the casting. Wrap a properly rated cable around your casting, making sure it is securely seated in the grooves cast into the concrete. Once the cable is securely attached to the casting, loop it around each end of the casting pickup bar. Be sure the cable is properly seated in the cable rests and slowly raise the overhead crane, taking all the slack out of the cable before lifting the casting. Carefully lift and move the casting as desired.

WARNING: DO NOT PLACE ANY PART OF YOUR BODY BENEATH CASTING PICKUP BAR OR CASTING WHILE ELEVATED. NORWECONY WILL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF THE USE OF ANY LIFTING OR TURNING EQUIPMENT. IT IS COMPLETELY THE RESPONSIBILITY OF THE USER TO INSURE ALL EQUIPMENT IS USED PROPERLY AND SAFELY.