



## Safe Operating Procedure #02 – Gantry Crane Operation

				quarantined and repairs or replacements arranged.
2	Confirm Safe Work Load of crane	<p>Estimate weight to be loaded and ensure that this is within Safe Work Load (SWL or WLL) of crane and slings' capability</p> <p>Use of two cranes for a tandem lift</p>	<ul style="list-style-type: none"> <li>Crane failure or sling damage or loss of load</li> </ul>	<ul style="list-style-type: none"> <li>Estimate weight of load and proceed only when load is within capability of the crane's slings and lifting capacity (as shown on tag WLL or SWL).</li> <li>This is not advisable. In the event that a load such as a beam, needs to be lifted using two cranes in tandem, the weight of the load must be within the load limit (SLL) capacity of EACH crane. <b>Note Demag operating instructions specify that a single machine is not designed for work in tandem with another.</b></li> </ul>
3	Sling load	Insert sling "around load"	<ul style="list-style-type: none"> <li>Load moves or rolls during slinging causing manual handling strain or injury or pinching of body parts.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure adequate clearance between body and load being slung, wear leather gloves and keep hands clear. Avoid trying to move the load manually.</li> <li>Use protective pads on the sharp edges of loads to protect chains against wear. Ensure sling is not twisted so that it jolts on movement.</li> <li>Place hook over the load's centre of gravity and position the hook at a suitable height to connect the lifting gear safely. Ensure eye of sling fits freely over the hook.</li> <li>When rotating a load that is on a trestle, ensure that the hook is placed on the correct side, which is</li> </ul>

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			<ul style="list-style-type: none"> <li>• Movement of slings, or slung load causes person slinging to fall or be crushed if standing on truck platform</li> <li>• Distraction causes injury</li> </ul>	<p>opposite to the direction where the load is going</p> <ul style="list-style-type: none"> <li>• Ensure that the shortener is placed above the load so that they do not come into contact, resulting in the load rotating unintentionally</li> <li>• If standing on truck platform, ensure that you have a path to escape should the slings force you to move.</li> <li>• Do not use mobile phones during this activity</li> </ul>
4	Clearing the pathway	Check that path of load travel is clear and safe	<ul style="list-style-type: none"> <li>• Trips or slips on oily surfaces or surfaces with shot. Head injuries.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure any grease or oil or shot is removed from the intended path of travel and that no obstacles are present and lighting is adequate. Operator and receiver to wear hard hat during operations.</li> </ul>
5	Ensure recipient is ready to receive load	Check with eye/verbal contact that receiver is ready to receive the load	<ul style="list-style-type: none"> <li>• Recipient unaware of load approaching, causing load to strike other materials or persons</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure receiver is concentrating on receiving the load e.g. not distracted and in clear sight</li> </ul>
6	Move and transfer load	Operate crane to transfer the load	<ul style="list-style-type: none"> <li>• Wrong controls activated causing injury</li> <li>• Load or slings cause head injury</li> <li>• Load slips away out of sling or chains become damaged</li> <li>• Load moves through noisy areas or areas</li> </ul>	<ul style="list-style-type: none"> <li>• Always test the controls in short bursts</li> <li>• Wear head protection</li> <li>• Ensure sling is balanced and load is centrally placed and tighten chains before lifting</li> <li>• Alert the receiver that the load is coming</li> <li>• Ensure all others are wearing high visibility</li> </ul>

			<p>where others working e.g. welders - causing load to strike other materials or persons</p> <ul style="list-style-type: none"> <li>• Damage to crane or slings</li> </ul>	<p>clothing and are made aware of proposed crane operation and stand clear of pathway</p> <ul style="list-style-type: none"> <li>• When handling loads that are approaching maximum capacity, test the brake by lifting the load just off the ground.</li> <li>• Whenever possible, keep a safe distance from the load</li> <li>• Do not reverse before the crane comes to a stop first.</li> <li>• Do not leave loads suspended without supervision.</li> <li>• Do not pull or drag suspended loads at an angle</li> <li>• Take care to avoid slamming the load and especially the sling, against other surfaces that can result in sling damage</li> </ul>
7	Place load	Lower and place load	<ul style="list-style-type: none"> <li>• Obstructions at unloading point</li> <li>• Unstable stack</li> </ul>	<ul style="list-style-type: none"> <li>• Make sure placement area is clear</li> <li>• Stack load level and ensure that it cannot roll</li> <li>• Ensure that load is not placed in such a manner that it may fall or tip after slings have been removed. That is, the main shaft of the steel should be sitting on the trestle or timber underneath. Loads should not be placed and</li> </ul>

			<ul style="list-style-type: none"> <li>• Hook and pendant hanging down</li> <li>• Falling from heights when adding or removing steel from a stack.</li> </ul>	<p>left sitting on steel plates that may be welded to the steel shaft (see diagram).</p> <ul style="list-style-type: none"> <li>• When placing a steel member on the ground, ensure that timbers are placed underneath the steel member. This when the load needs to be picked up again. The sling can be placed around the load, rather than trying to pick it up with the chain hooks only (see diagram).</li> <li>• Make sure timber or steel supports are strong enough to carry the weight of the load. If there is the possibility of the steel eventually being more than 2 metres high, then steel SHS sections should be used to stack the bottom few rows of steel because using timber may be insufficient in strength and break.</li> <li>• Make sure hook and pendant are clear person's height</li> <li>• When adding or removing any steel from stacks that are more than 2 meters high a portable platform should be manoeuvred next to the stack in order to prevent any fall of more than 2 meters being possible. This also applies when loading or unloading any steel loads on the back of a trailer.</li> </ul>
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8	Unslung load	Undo sling to unslung loads	<ul style="list-style-type: none"> <li>• Load moves or rolls during unslung causing manual handling strain or injury or pinching of body parts</li> <li>• Pendant swings causing injury</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure adequate clearance between body and load being released from sling, wear leather gloves, avoid trying to move the load manually</li> <li>• Ensure cable and pendant remain straight and do not swing, wear hard hat.</li> </ul>
9	Unloading trucks / Receiving loads & deliveries	Unloading trucks / Receiving loads & deliveries	<ul style="list-style-type: none"> <li>• Falling steel members from truck resulting in crash injury or death</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure all loads are secured and stable</li> <li>• Timber gluts and separators are in place</li> <li>• Steel members are stacked neatly</li> <li>• Nil loose steel members or components</li> <li>• Sufficient spacing for slings or chains to pass rails</li> <li>• Only another person to assist in unloading</li> <li>• Safety rails or other means of fall prevention in place</li> <li>• Exclusion zone around truck set at 3 meters. Do not enter exclusion zone, crane operator, dogman and spotters to ensure no workers enter this area.</li> </ul>
10	Store slings	Putting slings into storage	<ul style="list-style-type: none"> <li>• Damage to slings</li> </ul>	<ul style="list-style-type: none"> <li>• Store sling suspended when not in use, ensuring that they are protected from the weather and in the case of synthetic slings, are away from any chemicals or corrosive substances.</li> </ul>

- Supervisor:
- Personal Protective Equipment that must be used:  
**Leather gloves, safety footwear, high visibility vest/shirt, hard hat**









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