



20. RAM Spreaders

spreader designed to address the challenges faced in manual lashing; a mechanised solution for automatic latching and unlatching, safe lifting, securing and transporting of pipes

the challenge

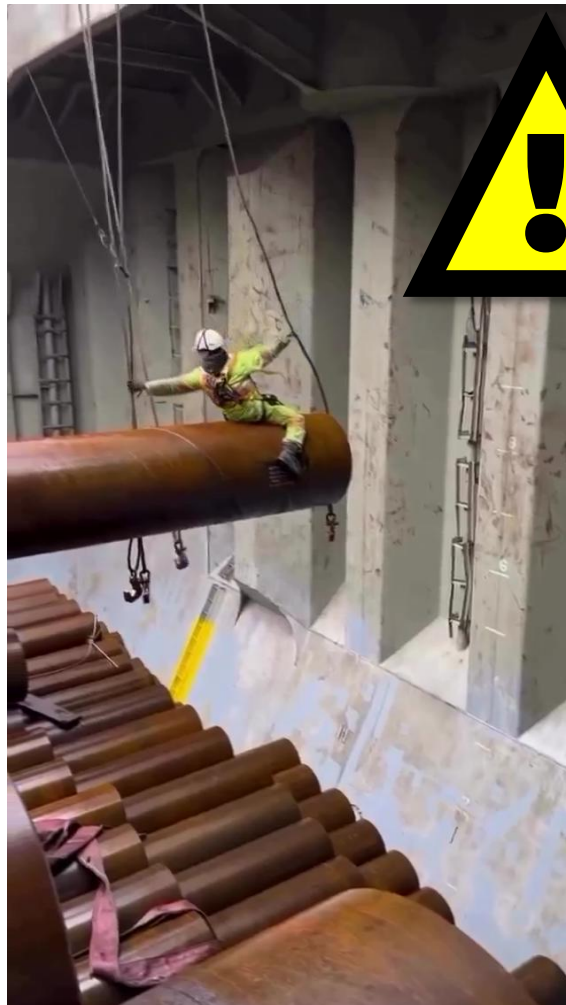
PIPE HANDLING

Traditionally, pipe stevedoring and handling have been carried out manually by workers using slings, chains, or other tools. This process demands intense physical effort and exposes workers to dangerous conditions.

High Risk of Injury

- Falling & Swinging Loads

Workers are under and alongside swinging and skewing pipes to help orient them into the correct stowage location in the ship's hatch. This can result in accidents such as slip or crush injuries, head trauma, or even fatalities.



- Physical Strain

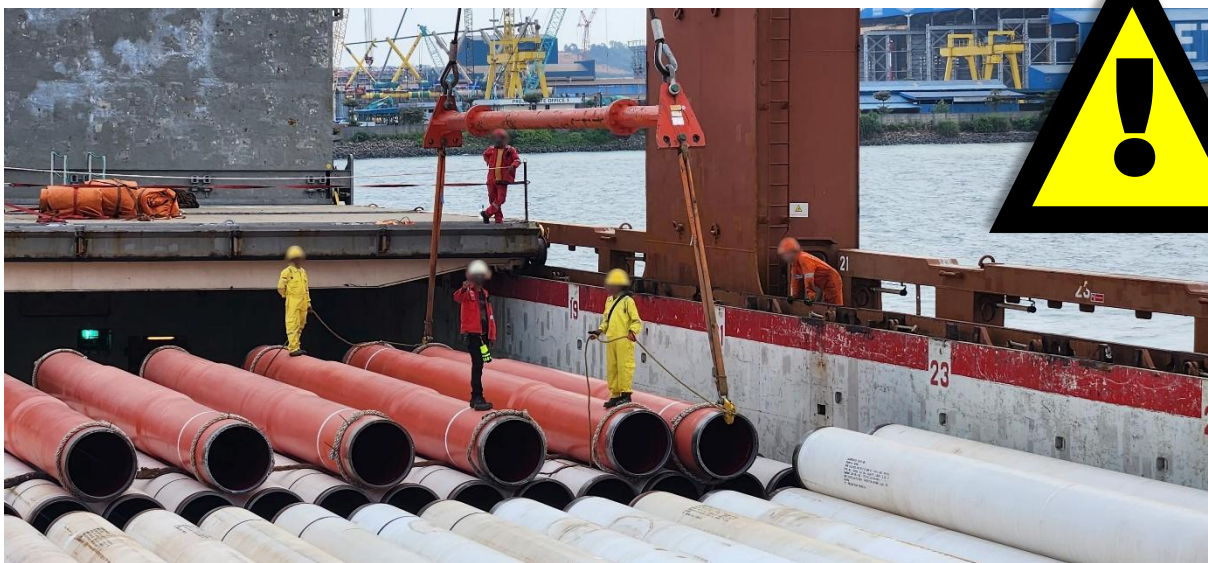
Risks of musculoskeletal injuries due to repetitive lifting, pulling, and adjusting pipes to control the load and ensure the correct orientation in the ship's hatch.

- Quayside Dangers

High risk from working under suspended loads and interacting with horizontal transport, such as quayside trucks.

- Risks at Sea

Varying sea conditions and the relative motion of the two vessels make pipe transfers from one ship to another even more difficult. Pipes can swing wildly out of control in the ship's hatch, so control of the swing and skew is critical.



Human Error

Pipes may be incorrectly lashed, leading to unsecured loads that can shift or fall during transport. Inconsistent tension on slings or chains can cause imbalances, increasing the risk of accidents

the innovation

The RAM Pipe Handling Spreader is designed to address the challenges faced in manual lashing, providing a mechanised solution for lifting, securing, and transporting pipes and offers numerous benefits:

Enhanced Safety

- Automatic latching and unlatching

Pipes are connected automatically by the pipe arms, dramatically reducing the risk of manual handling injuries by removing the need for stevedores to physically handle pipes. Workers are no longer required to have direct contact with the pipes, reducing the chances of crush injuries, falls, and other accidents.

Due to the RAM Pipe Spreader's gyroscopic control units (the first of its kind to have complete 360-degree rotational control), the spreader remains in one orientation during the load 'swing' when the operator controls the angled position with a remote control. This allows accurate placement of pipes, saving time and allowing the operator to control the load at a safe distance without the need for ropes or slings.



Several safety features prevent falling pipes, including a series of sensors that measure the load of each pipe and can stop operations if the loads are unbalanced. The system also has a series of 'landed' and 'locking' pins to ensure all pipes are secured before lifting. There is also

a redundant 'load weight' and 'camera' system to weigh and detect any potential fallaway when hoisting the pipes.

Although automatic pipe handling spreaders require an initial investment, they provide long-term cost savings in reducing the number of compensation claims, fewer work stoppages and reduced downtime from incidents

how it was implemented

A customer approached RAM Spreaders to help with a major offshore project, handling pipes between Indonesia and Australia. Working together they produced the Universal Pipe Handling Spreader, which is capable of handling up to 3 pipes of between 11.8 and 12.7 meters in length and diameters of between 16 to 60 inches.

The pipe handling spreader was deployed at the port of Batam, Indonesia, loading the offshore pipes from the quayside into the shipping vessel's hatch. Another RAM pipe handling spreader was installed on the shipping vessel's crane to transfer pipes into a transshipment vessel near the coast in North West Australia before being transferred again into the pipelaying vessel.

result

The pipe spreaders used are only one small part of the innovations across this project regarding safety and productivity.

RAM have worked with their customer to provide a safe, innovative solution to load pipes. This system is one of several innovations in this project that make it safe and reliable.

conclusion

The comparison between automatic pipe handling spreaders and manual lashing is clear: Automatic pipe handling spreaders offer superior safety and efficiency. While manual lashing exposes workers to significant risks and slows down operations, automatic pipe handling spreaders eliminate many hazards and significantly speed up the pipe handling process.

For industries reliant on the transport and handling of pipes, investing in automatic pipe handling technology is not only a safer option but also a smarter long-term investment for operational success.

LINK: <https://www.ramspreaders.com/>

