

Backup Chock Assembly/Disassembly



The Situation

ArcelorMittal, the world's leading steel and mining company, covers all of the key steel markets, from emerging to mature, in more than 20 countries. At its Dofasco subsidiary in Ontario, Canada, the company had been using an overhead crane for the assembly and disassembly and transport of backup chocks used in the manufacture of rolled steel. The operation required multiple workers to attach bearing housings to backup roll shafts and frequently resulted in costly scoring damage to the backup roll.

After assessing the cost of equipment, losses due to damage and worker safety risks, ArcerloMittal determined they needed a more flexible, affordable option that was safe for workers and materials. They turned to Airfloat and the proven technology of air bearings.

The Solution

Airfloat designed and built an innovative machine that utilizes air bearing technology to float 30,000-lb. bearing housings on a thin film of compressed air in any lateral direction. The transporter's lifting pins engage the bearing housing and a four-post hydraulic lift system raises it off the ground. The operator steers the bearing into approximate alignment with the backup roll shaft using track-type and front-wheel steering.

During the insertion process, this revolutionary transporter uses patent-pending balance deck technology to gently ease the bearing onto the backup roll shaft, automatically making slight adjustments to keep the two in proper alignment, which virtually eliminates costly scoring damage.

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The Result

Airfloat has empowered ArcelorMittal to end their dependence on inefficient, hazardous overhead cranes. The transporter enables single-person operation at ground level which supports one of ArcelorMittal's core philosophies of maintaining safety as a top priority. In addition, the transporter virtually eliminates costly scoring damage to backup rolls—a key benefit and reason the client expects the machine to pay for itself in less than a year.

In addition to a satisfied client, Airfloat has been honored for their innovative work by the Steel Manufacturers Association (SMA) who award them the 2012 Innovation Award.