



CASE STUDY: STEEL MILL

APPLICATION: CRANE TROLLEY GREASE SYSTEM

An overhead crane is essential in steel mill operations. At every step of the manufacturing process, until it leaves the mill as a finished product, metal is handled by an overhead crane: raw materials are poured into a furnace by crane; hot metal is then rolled to specific thickness and tempered or annealed, and then stored by an overhead crane for cooling; and the finished coils are lifted and loaded onto trucks and trains by overhead crane.

An overhead crane consists of parallel runways with a traveling bridge spanning the gap. A hoist, the lifting component of a crane is connected to the trolley, which shuttles back and forth along the bridge. The bearings on the hoist are constantly turning as the wire rope lifts and lowers the heavy loads and must be properly lubricated. The mill could not afford to have the crane go out of service due to a seized bearing and approached FLO for an Automatic Lubrication Solution to ensure the trolley hoist bearings stay properly lubricated. Employee health and safety was also a factor, given the height and location of the crane and difficulty involved to lube it.



THE FLO SOLUTION

FLO installed a Lincoln Centro-Matic® Lube System - a single-line system, consisting of a gear pump package with 8L grease reservoir and follower plate, and parallel type injectors. Due to the heat, steam and dust that is constant in the trolley environment, both the pump package and injectors were assembled and mounted in SS cabinets (one with the pump package and two with 14 injectors each), with system operational lights mounted on the cabinet doors.

Pump Package:

- The 120-volt AC pump package with integral timer provided a complete stand-alone system controlled by the machine ignition switch. No additional air or hydraulic hook-ups required, giving long-term installation dependability.
- An easily adjustable 12/24 VDC timer is an integral part of the pump package. The adjustable "OFF" time of 5-80 minutes combined with the monitored "ON" time of 2-30 minutes allows maximum flexibility to adapt to changing work conditions.
- A grease pressure switch allows for system monitoring of each lube event. If the system does not reach/maintain grease pressure for the duration of the lube event, a "Lube Failure" alarm will be indicated on the pump display board.
- Includes a low level switch with indication on the pump display board, and a manual run switch.
- A grease pressure gauge on the main supply line provides visual indication a successful lube event has occurred and aids in trouble-shooting and system diagnostics.

SL-1 Injectors:

- There is one SL-1 injector per lube point, each with its own Cycle Indicator Pin (CIP). When the system cycles, the CIP on each injector moves, giving operators a quick and easy monitor of system performance.
- Servicing or adjusting the volume of individual injectors can be done quickly without dismantling injectors or removing grease lines. This doesn't affect the output of the other injectors in the system.
- Each injector includes a "Remote Manual Lubrication" fitting, allowing personnel to quickly and easily trouble-shoot and prime/flush individual lines without having to disturb or remove any fittings.

FLO RESULTS

FLO's completely reliable automatic lubrication system keeps the hoist well lubricated and in service. By extending the service interval of the components of the crane, they were also able to reduce downtime and maintenance costs plus significantly reduce safety issues associated with manual lube.

**For Total Lube Solutions,
GO WITH THE FLO!**

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