ADJUSTABLE WORK PLATFORMS

Original conveyor section and platform.

New Adjustable Work Platform.

New platform section layout.

NEED

Employees working over a newly installed conveyor sorting platform at Schnitzer Steel Industries Inc. reported great discomfort, particularly in the form of lower back pain, after working even relatively short periods of time. The stock work platform, typical of many factory supplied material sorting stations, had not evolved with the associated material handling conveyer it supports. The factory platform required bent over static postures and extended reach requirements by most of the employees, to conform their bodies to the poor ergonomics of the sorting station. Research was completed to try to identify off the shelf solutions to rectify the problem. None were located. Requirements of a solution to this problem would entail reducing the reach requirements at the sorting station, and the ability to adjust the standing surface height of the employee, relative to the belt height. This adjustability would allow for different height people to optimize the elevation of the conveyer line, relative to their standing surface.

SOLUTION

The solution was the design of an adjustable work platform, measuring 42” x 30” and having the ability to adjust in height over an 8.5-inch adjustment range. This platform design incorporates an electrically controlled motor, which drives a pump and cylinder system on the four corners of the platform. The platforms may be fabricated in a free standing design, or may be incorporated into a fixed surrounding platform, which Schnitzer Steel did. The design also incorporates the ability to install removable sit stool type supports, to allow for sitting or a supported standing position while working. The 8.5” range adjustability allows them to compensate for different height workers ranging from 5 feet in height, up to 6 foot 7 inches in height. They also redesigned the conveyer system section that the sorting platform attached to, to reduce the original reach range between 12” and 40”, down to a range of 5” to 29”.

BENEFIT

The post-project employee discomfort surveys indicate a marked improvement in all categories of discomfort indicating a tremendous improvement in employee comfort as a result of the re-designed conveyor and height adjustable platform. Prior to the ergonomic improvements, up to 89% of the employee group reported discomfort (lower back) with an average discomfort rating of up to 7.0 on a 0 -10 scale (upper back). The post-project surveys show no employees reporting upper or lower back discomfort. Only two employees (out of 9) report any discomfort at all. These are primarily related to the lower extremities with an average rating of 4.5 on the 0-10 scale.

CONTACTS

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