design news

DON'T STOP THE PRESSES!

Servos streamline newspaper-insert process

The latest technology news in your morning newspaper may not be on the front page. Instead, it may lie in the components that separate and insert the promotional and other fliers between the pages of the paper.

Servo systems are augmenting the hoppers, stackers, feeders, and gatherers used in the inserting operation, making the process faster, more flexible, and less prone to maintenance problems.

"When it comes to the inserting process, newspaper-printing plants are like any packaging plant," says Dave Hall of Prim Hall Enterprises (www.primhall.com), a Plattsburgh, NY systems integrator that designs finishing and press-delivery machinery. Working with Rochester, NY-based Industrial Indexing Systems (www.iis-servo.com), the company has designed servo systems for several newspapers, among them, *The Washington Post*, which handles 400,000 inserts per week.

The previous mechanical inserting process allowed for no change in the sequence of inserts. Nor would it permit additions or elimination of inserts, and it restricted the size of the inserts.

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Hall and his team designed a new system based on a 40 oz-inch ac servo with a resolver from Industrial Indexing. Among other things, says Hall, the new system allows custom inserts for separate sections of the circulation area, and increases the speed of the process.

In the previous mechanical system, a cam-driven sucker bar would pull an insert corner down about a half inch from the stack, and then a separator disk would separate the insert from the pile and deliver it to one of four sets of grippers on a rotary drum. The drum–with the insert now wrapped around it–would rotate 180°, and the gripper would release the insert, letting it fall into a moving raceway, which transported it to a bundler. Eventually, the bundle was combined with the newspaper.

The servo system increases the speed of the disk, cutting the time for the disk to sweep past the insert and drive it down to the grip position. Hall says the inserting speed triples.

Additionally, the system stops the rotation of the disk when inserts are not needed, avoiding damage to adjacent inserts. The previous system required a shutdown of the entire system in those cases.

To keep all inserts a safe distance apart, the servo system allows for on-the-fly adjustment of the hopper-separator disk-drum system. Hall says that enables greater productivity when the inserts are gathered into piles at the end of the raceway. It also eliminates the line shaft and belt that run conventional systems, reducing maintenance costs.

The servo system also allows the separator disk to rotate in reverse, allowing use of multiple-fold inserts.

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