

ASF - Auto Spike Feeder

Press Overview



What is the Auto Spike Feeder?

- The ASF - Auto Spike Feeder is an innovative new add-on option for Nordco's popular CX Hammer - Production Spiker.
 - Existing CX Hammer production spike drivers can be retrofitted to include this new option.
- The ASF's integrated functionality moves spikes seamlessly from the bulk bin to the driving guns, without operator intervention.



ASF Development Background

- Nordco developed the ASF – Auto Spike Feeder because:
 - There were requests from Class I railroads to make the spike feeding process simpler and less labor intensive
 - There was potential to make the CX Hammer – Spike Driver functionality even more robust
 - There was potential to create operational cost savings for our customers through technology improvements
- The current methods of feeding spikes to the driver guns are:
 - A third crew member in the CX Spiker machine takes spikes from the bulk bin and inserts the spikes in the driver gun feeders, OR
 - The spiker operators themselves take spikes from the bulk bin and insert them in the driver gun feeders

ASF Functionality Overview

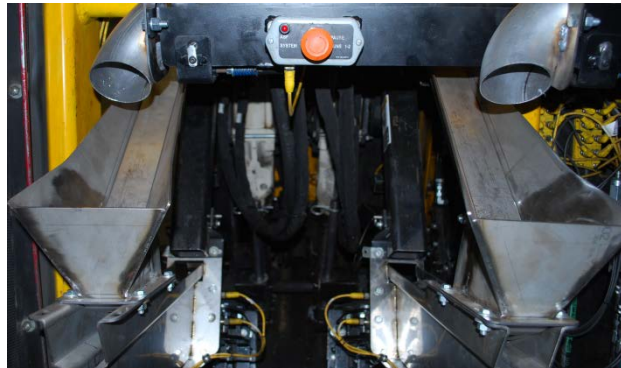
- When the ASF option is installed on a CX Hammer, the spike moves along the following path from the bulk bin to the driver gun:
 - The Singulator moves a single spike from the bin and transfers it to the conveyor belt
 - The conveyor belts move the spikes down to the spike trays
 - The spike trays move the spikes down to the Orienter
 - The Orienter positions the spikes in the correct orientation before they enter the driver gun workheads

Singulator Functionality

- The ASF uses a ram and an isolation wedge to move spikes from the bulk bin into the Singulator
 - The ram continuously moves spikes forward in the bin
 - The isolation wedge then lifts to create an angle, which further pushes the spikes towards the Singulator
- The Singulator then uses a stepped approach to move spikes to the conveyor belts
 - There are four steps: the first two steps operate continuously, while the next two steps are split into left and right steps and operate as needed
 - Spikes are moved from the bin to the first, and then the second, step of the Singulator
 - Proximity and infrared switches signal the Singulator which driving gun needs spikes next
 - Then, based on the switch signal, the left or right remaining steps operate to move spikes to the correct conveyor belt

Conveyor Belt/Spike Tray Functionality

- Proximity and infrared switches signal the system that a driver gun requires replenishment.
 - The spike is moved from the main conveyor belt to the conveyor belt for the spike tray associated with that driver gun
 - The spike is then dropped into the appropriate spike tray



- The spike tray forces the spike to drop vertically in the Orienter guide rail

Orienter Functionality

- Since spikes come with a variety of head sizes, the Orienter holds the spike on the throat, rather than the head, to ensure that the rotation process is uniform and effective
- Orienter uses a dual-wiper design to position the spike
 - The wipers moves the spike through a series of small rotations to position the spikes in the correct direction for entering the driver gun
 - When the spike is in the correct orientation, it moves into the driver gun
- Proximity switches signal to the system that additional spikes should be fed to the Orienter; this triggers the system to send spikes to the correct conveyor belt, spike tray, and finally Orienter

